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GULF OF MEXICO OIL SPILL PREVENTION AND RESPONSE ACT

HEARING
BEFORE THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
ONE HUNDRED FIRST CONGRESS
FIRST SESSION
ON
AMENDMENT NO. 229 TO S. 406

JULY 24, 1989



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Committee on Energy and Natural Resources

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GULF OF MEXICO OIL SPILL PREVENTION AND RESPONSE ACT

MONDAY, JULY 24, 1989

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 2:11 p.m., in room SD-366, Dirksen Senate Office Building, Hon. J. Bennett Johnston, chairman, presiding.

The CHAIRMAN. The hearing will come to order.

OPENING STATEMENT OF HON. J. BENNETT JOHNSTON, U.S. SENATOR FROM LOUISIANA

The CHAIRMAN. Today the Committee will hear testimony on Senate Amendment 229, the Gulf of Mexico Oil Spill Prevention and Response Act.

Senator Breaux and I introduced this legislation to insure, to the greatest extent humanly possible, that the Gulf of Mexico will not be the scene of a catastrophic oil spill like we experienced in Prince William Sound, and, if such a spill does occur, that our response capabilities will be substantially enhanced.

In addition, the legislation addresses one of the most significant environmental problems facing Louisiana and, indeed, the entire Nation: the loss and destruction of coastal wetland resources.

The Gulf of Mexico and the Lower Mississippi River are areas that are particularly vulnerable to oil spills. This region experiences extensive oil tanker and barge traffic, and is the site of considerable offshore oil and gas development. It is also the site of our Nation's only deep water port, the Louisiana Offshore Oil Port.

Illustrating this vulnerability are the most recently available Coast Guard statistics, which indicate that the Gulf experienced over 20 percent of all vessel spills in the United States during 1984, 1985, and 1986. Just last year, there were 16 spills, totaling 15,053 barrels, as a result of oil and gas development and production on the Outer Continental Shelf.

At the same time, the Gulf Coast contains coastal marshes and wetland areas which provide critical habitat for a variety of fish and wildlife species, as well as providing commercial and recreational benefits to millions of Americans. These coastal wetlands are fragile and are adversely affected by a variety of activities, including impacts of oil and gas development.

In recent years, numerous studies and reports have documented the serious and deteriorating condition of our coastal marshes and

wetlands. Nowhere is this situation more critical than the Gulf Coast, and no portion of this region is more seriously impacted than the coastal wetlands of Louisiana. For, while the State contains over 40 percent of the Nation's coastal wetlands, it experiences over 80 percent of the annual wetland loss.

Today, this loss ranges between 40 to 60 square miles annually. Estimates are that, unless significant steps are taken, Louisiana would lose an additional 2.4 million acres of coastal wetlands between now and the year 2040.

These losses threaten an almost \$1 billion a year commercial fish and shellfish industry, 40 percent of the Nation's annual harvest of wild fur and hides, valuable habitat for nearly 5 million migratory birds, areas of significant recreational use and potential, especially for sport hunting and fishing, and billions of dollars of infrastructure investments.

These problems are significant, and this legislation mandates positive action to address them.

First, it amends the Outer Continental Shelf Lands Act to increase funds available for oil spill response to between \$500 million and \$550 million through imposition of a ten cent per barrel fee on oil produced on the Outer Continental Shelf.

Second, it establishes a Wetlands Protection, Restoration and Enhancement Account, to be funded at a level of approximately \$100 million annually through a two cent per mcf fee on gas produced on the Outer Continental Shelf. It establishes an Oil Spill Research and Development Center and requires increased, unannounced inspections of OCS oil spill prevention and containment equipment, more frequent drills for OCS operations, and the maintenance of essential oil spill cleanup equipment on site.

The legislation requires oil spill contingency plans for vessels carrying oil in the Gulf of Mexico and the Lower Mississippi River, provides for a report on vessel design, and imposes new requirements on vessel crews, vessel inspections, and vessel equipment.

Finally, the legislation addresses a problem with respect to offshore oil and gas development that we are currently confronting in the Gulf, and that also has serious national implications. That problem is the lack of cooperation by the Federal Government in the development of common hydrocarbon bearing areas underlying the Federal-State boundary offshore.

Under current Federal policy, where a common hydrocarbon bearing area underlies the Federal-State boundary, the antiquated and discredited "rule of capture" governs, that is, whoever produces the resources first gets to keep them, regardless of whose lands they underlie.

This leads to a race to produce oil and gas from common areas, unnecessary drilling in order to prevent drainage of oil and gas resources across the Federal-State boundary, and needless attendant environmental risks.

The Federal Government, the coastal States, and their lessees all suffer as a result.

In the West Delta Field, off the coast of Louisiana, this policy has, in fact, led to unnecessary drilling, unnecessary environmental risk, and the drainage of resources from the State and its lessees valued at \$23.5 million. Although I do not believe this misguided

policy is consistent with current law, this legislation requires the cooperative development of common hydrocarbon bearing areas by the Federal Government and the coastal states.

This legislation is reciprocal in protecting both the Federal Government and the coastal states from unnecessary drilling and drainage of oil and gas resources.

I am a long-time supporter of the development of oil and gas resources on the Outer Continental Shelf. The Gulf Coast has played a key role in supplying our Nation with much needed energy resources.

The Gulf and Lower Mississippi River also serve as a vital link in the energy transportation chain. At the same time, we in Louisiana and other coastal states take great pride in our wetlands and our coastal resources.

Oil and gas development, production, and transportation can and should be undertaken in a safe and environmentally sound manner.

I believe the legislation makes great strides toward achieving these ends.

I thank our witnesses very much for being here, and before we hear from them, I would like to call on the distinguished Ranking Minority Member of this Committee, Senator McClure.

Senator McCLURE. Mr. Chairman, I have a very brief statement which I would ask unanimous consent to be placed in the record at this point.

The CHAIRMAN. Without objection, that will be done.

[The statement of Senator McClure and the text of amendment No. 229 to S. 406 follow:]

STATEMENT OF
SENATOR JAMES A. MCCLURE
RANKING REPUBLICAN MEMBER

GOOD MORNING. TODAY THE COMMITTEE ON ENERGY AND NATURAL RESOURCES IS HOLDING THE SECOND OF TWO LEGISLATIVE HEARINGS ON OIL SPILL EMERGENCY PREPAREDNESS LEGISLATION. TODAY'S HEARING IS ON PRINTED AMENDMENT NO. 229, THE GULF OF MEXICO OILSPILL PREVENTION AND RESPONSE ACT. LAST FRIDAY THE COMMITTEE HELD A HEARING ON PRINTED AMENDMENT NO. 100, THE PRINCE WILLIAM SOUND OILSPILL EMERGENCY RESPONSE ACT OF 1989.

LIKE EVERYONE ELSE HERE TODAY, I AM VERY CONCERNED ABOUT THE ENVIRONMENTAL IMPACTS OF OIL SPILLS SHOULD THEY OCCUR. I ALSO BELIEVE THAT WE MUST DO MORE TO INSURE THAT THEY DON'T OCCUR IN THE FUTURE AND, IF THEY DO HAPPEN, THAT WE ARE MORE FULLY PREPARED TO DEAL WITH THEM QUICKLY AND EFFECTIVELY.

THESE TWO AMENDMENTS PROPOSE A NUMBER OF ACTIONS INTENDED TO ADDRESS THE OIL SPILL ISSUE IN THE CONTEXT OF ALASKA AND THE GULF OF MEXICO, AS WELL AS OTHER UNRELATED MATTERS. TO THE EXTENT THAT THESE MEASURES PROPOSE STEPS WHICH WOULD, IN FACT, HELP RESOLVE THE PROBLEM I WILL BE SUPPORTIVE. HOWEVER, I MUST OBSERVE THAT THE ISSUES INVOLVED WITH OIL SPILLS ARE NOT LIMITED TO JUST THESE TWO REGIONS OF THE UNITED STATES. RECENTLY THERE HAVE BEEN OIL SPILLS OF VARYING SIZES AND CONSEQUENCES IN THE COASTAL WATERS OF RHODE ISLAND, THE DELAWARE RIVER, THE HOUSTON SHIP CHANNEL AND IN NEW JERSEY. AND AT SOME FUTURE TIME THERE UNDOUBTEDLY WILL ALSO BE SIMILAR PROBLEMS IN OTHER COASTAL WATERS. THE QUESTIONS BEFORE US ARE NOT ONLY WITH RESPECT TO THE ADEQUACY OF CURRENT LAW, BUT ALSO WHAT ACTIONS CAN BE TAKEN TO REDUCE THE HUMAN FACTOR.

I LOOK FORWARD TO THE TESTIMONY OF TODAY'S WITNESSES AS TO THE WORKABILITY AND EFFICACY OF THE ACTIONS PROPOSED BY THESE AMENDMENTS, AND ON WHAT CAN BE DONE TO IMPROVE THIS LEGISLATION.

AMENDMENT NO. 229

Calendar No. 28

Purpose:

.....

.....

IN THE SENATE OF THE UNITED STATES 101st Cong., 1st Sess.

S. 406

To authorize competitive oil and gas leasing and development on the Coastal Plain of the Arctic National Wildlife Refuge in a manner consistent with protection of the environment, and for other purposes.

June 23 (legislative day, January 3), 1989

Referred to the Committee on Energy and Natural Resources
and ordered to be printed

AMENDMENTS intended to be proposed by Mr. JOHNSTON (for himself and Mr. BREAUX)

Viz: Amend S. 406, the "Arctic Coastal Plain Competitive Oil and Gas Leasing Act", by striking all after the enacting clause and substituting therefor the following new language:

1 SECTION 1. SHORT TITLE.—This Act may be cited as
2 the "Gulf of Mexico Oilspill Prevention and Response Act".

3 SEC. 2. DEFINITIONS.—As used in this Act, the
4 term—

5 (a) "Gulf of Mexico and lower Mississippi River"
6 means (1) all waters seaward from the coastline east of
7 98 degrees west longitude and west of 80 degrees 30

1 minutes west longitude, extending to the seaward
2 boundary of the exclusive economic zone as established
3 under Presidential Proclamation Numbered 5030,
4 dated March 10, 1983; (2) that portion of the Missis-
5 sippi River running adjacent to or within the bound-
6 aries of the State of Louisiana including its navigable
7 tributaries located adjacent to or within the State of
8 Louisiana; and (3) the Gulf Intracoastal Waterway:
9 *Provided*, That the Secretary is directed to publish
10 within one month of the date of enactment of this Act
11 regulations defining the precise boundaries of the area
12 covered by this Act;

13 (b) "oil" means petroleum, including crude oil or
14 any fraction or residue therefrom;

15 (c) "public vessel" means a vessel which—

16 (i) is owned or chartered by demise, and op-
17 erated by (A) the United States, (B) a State or
18 political subdivision thereof, or (C) a foreign gov-
19 ernment; and

20 (ii) is not engaged in commercial service;

21 (d) "Secretary" means the Secretary of the De-
22 partment in which the Coast Guard is operating;

23 (e) "spill" means any emission (other than natural
24 seepage), intentional or unintentional, and includes, but

1 is not limited to, spilling, leaking, pumping, pouring,
2 emitting, emptying, or dumping;

3 (f) "tanker" means a vessel constructed or adapt-
4 ed primarily for the carriage of oil in bulk or in com-
5 mercial quantities as cargo; and

6 (g) "vessel" means every description of watercraft
7 or other artificial contrivance used, or capable of being
8 used, as a means of transportation on water other than
9 a public vessel.

10 TITLE I—AMENDMENTS TO THE OUTER
11 CONTINENTAL SHELF LANDS ACT

12 SEC. 101. OFFSHORE OIL POLLUTION COMPENSA-
13 TION FUND.—

14 (a) INCREASE IN FUND AND ESTABLISHMENT OF
15 ACCOUNTS.—Section 302(a) of the Outer Continental
16 Shelf Lands Act Amendments of 1978 (43 U.S.C.
17 1812(a)) is amended by deleting the subsection in its
18 entirety and inserting in lieu thereof the following:

19 "(a)(1) There is hereby established in the Treasury of
20 the United States an Offshore Oil Pollution Compensation
21 Fund (the "Fund"). The Fund shall contain an Oil Pollution
22 Account and a Wetlands Protection, Restoration, and En-
23 hancement Account (the "Wetlands Account"). Except as
24 otherwise provided in this subsection, moneys collected pur-
25 suant to subsection (d) of this section as a result of the fee

1 imposed on oil obtained from the Outer Continental Shelf
2 shall be deposited into the Oil Pollution Account. Moneys
3 collected pursuant to subsection (d) of this section as a result
4 of the fee imposed on gas obtained from the Outer Continen-
5 tal Shelf shall be deposited into the Wetlands Account.

6 “(2) The Secretary of the Treasury shall continuously
7 monitor the amount of moneys deposited into the Fund.
8 When the Oil Pollution Account reaches \$500,000,000 all
9 additional moneys collected pursuant to subsection (d) of this
10 section as a result of the fee imposed on oil obtained from the
11 Outer Continental Shelf shall be deposited into the Wetlands
12 Account.

13 “(3) Notwithstanding the previous paragraph, if at any
14 time the Oil Pollution Account falls below \$500,000,000, all
15 moneys collected pursuant to subsection (d) as a result of the
16 fee imposed on oil produced from the Outer Continental Shelf
17 shall be deposited into the Oil Pollution Account until such
18 account reaches \$500,000,000.

19 “(4) The Oil Pollution Account shall be maintained at a
20 level of not less than \$500,000,000, and not more than
21 \$550,000,000 except that such amount shall be increased to
22 the extent necessary to permit any moneys recovered or col-
23 lected which are referred to in subsection (b)(2) of this section
24 to be paid into the Fund.

1 “(5) The Oil Pollution Account within the Fund shall be
2 administered by the Secretary and the Secretary of the
3 Treasury as specified in this Act. The Wetlands Account
4 within the Fund shall be administered by the Secretary of the
5 Interior and the Secretary of the Treasury as specified in this
6 Act.

7 “(6) The Oil Pollution Account within the Fund may
8 sue and be sued in its own name.”.

9 (b) WETLANDS ACCOUNT.—Section 302 of the
10 Outer Continental Shelf Lands Act Amendments of
11 1978 (43 U.S.C. 1812) is amended by adding a new
12 subsection (d) as follows and redesignating the remain-
13 ing subsections (d) through (f) as subsections (e)
14 through (g):

15 “(d)(1) Funds deposited in the Wetlands Account shall
16 remain available until expended and may be used solely in
17 accordance with the provisions of this section.

18 “(2)(A) As soon as practicable after the date of enact-
19 ment of the Gulf of Mexico Oilspill Prevention and Response
20 Act, the Secretary of the Interior, in conjunction and consul-
21 tation with the Secretary of the Army acting through the
22 Chief of the Corps of Engineers, the Secretary of Commerce,
23 the Secretary of Agriculture, and the Administrator of the
24 Environmental Protection Agency shall initiate a process to
25 identify and prepare a list of high priority projects to pre-

1 serve, protect, enhance, restore, or create coastal wetlands in
2 the United States.

3 “(B) To assist in the preparation of the list, the Secre-
4 tary of the Treasury shall make funds available from the
5 Wetlands Account to the Secretary of the Interior to prepare
6 preliminary assessments; general or site specific inventories;
7 reconnaissance, engineering, or other studies; preliminary
8 design work; and such other studies as may be necessary to
9 identify such projects.

10 “(C) Such funds as are necessary for these purposes, but
11 not to exceed \$10,00,000 annually, shall be allocated by the
12 Secretary of the Interior to the Federal agencies identified in
13 paragraph (2)(A) (including the Department of the Interior)
14 based on the need for such funds and such other factors as
15 the Secretary of the Interior, in consultation with the other
16 agencies, deems appropriate to carry out the purposes of this
17 subsection.

18 “(3)(A) As soon as practicable after funds are made
19 available pursuant to paragraph (2), the Secretary of the In-
20 terior shall compile and transmit the list of priority projects
21 to the Congress. Thereafter, the list shall be transmitted to
22 the Congress annually as part of the President’s budget sub-
23 mission. Such transmittal shall also include a statement from
24 the Secretary of the Treasury indicating the amount available
25 for expenditure from the Wetlands Account.

1 “(B) The list shall include, but not be limited to, the
2 following:

3 “(i) identification, by map or other means, of the
4 coastal wetland area to be covered by the project; and

5 “(ii) a detailed description of the proposed project
6 including a justification for including such project on
7 the list, the proposed activities to be carried out pursu-
8 ant to the project, the benefits to be realized by such
9 project, the identification of a lead agency to undertake
10 the proposed project, an estimated timetable for the
11 completion of project, and the estimated cost of the
12 project.

13 “(C) Where such a determination is required under ap-
14 plicable law, benefits of projects on the list are deemed to be
15 at least equal to the costs associated with such projects.

16 “(D) In preparing the list, special consideration shall be
17 given to the inclusion of projects affecting coastal wetland
18 areas having particularly high value as fish and wildlife habi-
19 tat, for purposes of flood or pollution control and which are,
20 or are likely to be, subject to erosion, conversion or other
21 degradation.

22 “(4) Except as provided in paragraph (2), funds from the
23 Wetlands Account shall be allocated in accordance with the
24 list submitted pursuant to this section unless such list is
25 modified by law: *Provided*, That funds in the Wetlands Ac-

1 count shall be available for projects within a State in propor-
2 tion to the amount of production of oil and gas on the Outer
3 Continental Shelf seaward from the submerged lands of such
4 State.

5 “(5) Unless the list is modified by law, the Secretary of
6 the Treasury is authorized and directed, beginning one year
7 after the list is transmitted pursuant to paragraph (3)(A), to
8 make funds from the Wetlands Account directly available to
9 the head of the appropriate agency for the purpose of carry-
10 ing out projects as identified on the list and in accordance
11 with paragraph (4). If the list is modified by law, the Secre-
12 tary shall take action in accordance with such modifications.

13 “(6) As used in this subsection, the term “project”
14 means a complete project or, where applicable, individual
15 phases, portions, or components thereof.”.

16 (c) FEES.—Section 302(d)(1) of the Outer Conti-
17 nental Shelf Lands Act Amendments of 1978 (43
18 U.S.C. 1812(d)(1)) is amended by striking “not to
19 exceed 3 cents” and inserting “10 cents” and adding
20 at the end thereof: “The Secretary of the Interior shall
21 levy and the Secretary of the Treasury shall collect a
22 fee of 2 cents per thousand cubic feet of gas obtained
23 from the Outer Continental Shelf, which shall be im-
24 posed on the owner of the gas when the gas is pro-
25 duced.”.

1 (d) CONFORMING AMENDMENTS.—

2 (1) Section 302(c) of the Outer Continental
3 Shelf Lands Act Amendments of 1978 (43 U.S.C.
4 1812(c)) is amended by striking the word "Fund"
5 in the first and second sentences and inserting in
6 lieu thereof "Oil Pollution Account of the Fund"
7 in each sentence and by striking paragraph (3)
8 and inserting in lieu thereof:

9 "(3) subject to such amounts as are provided in
10 appropriation Acts, all administrative and personnel
11 costs of the Federal Government incident to the admin-
12 istration of the Oil Pollution Account of the Fund, in-
13 cluding, but not limited to, the claims settlement activi-
14 ties and adjudicatory and judicial proceedings, whether
15 or not such costs are recoverable under section 308 of
16 this Act."

17 (2) Section 302(d)(2) of the Outer Continen-
18 tal Shelf Lands Act Amendments of 1978 (43
19 U.S.C. 1812(d)(2)) is amended by deleting para-
20 graph (2) in its entirety and inserting in lieu
21 thereof the following:

22 "(2) The Secretary of the Treasury, after consulting
23 with the Secretary and the Secretary of the Interior, shall
24 promulgate reasonable regulations relating to the collection
25 of the fees authorized by paragraph (1) of this subsection. No

1 regulation that sets fees, whether or not in effect, may be
2 stayed by any court pending completion of judicial review of
3 such regulation.”.

4 (3) Section 302(e)(1) of the Outer Continen-
5 tal Shelf Lands Act Amendments of 1978 (43
6 U.S.C. 1812(e)(1)) is amended by deleting
7 “Fund” and inserting in lieu thereof “each ac-
8 count within the Fund”.

9 (4) Section 302(e)(2) of the Outer Continen-
10 tal Shelf Lands Act Amendments of 1978 (43
11 U.S.C. 1812(e)(2)) is amended by deleting “the
12 Fund” in the first sentence and inserting in lieu
13 thereof “each account within the Fund” and by
14 deleting the last sentence of the paragraph and in-
15 serting in lieu thereof the following: “The interest
16 on, and the proceeds from the sale of, any obliga-
17 tion held in the Fund shall be deposited in and
18 credited to the appropriate account within the
19 Fund.”.

20 (5) Section 302(f) of the Outer Continental
21 Self Lands Act Amendments of 1978 (43 U.S.C.
22 1812(f)) is amended by deleting “Fund” at each
23 place where it appears in the subsection and in-
24 serting in lieu thereof “Oil Pollution Account of
25 the Fund”.

1 (6) Section 304(f)(1) of the Outer Continental
2 Self Lands Act Amendments of 1978 (43 U.S.C.
3 1814(f)(1)) is amended by deleting "Fund" and in-
4 serting in lieu thereof "Oil Pollution Account of
5 the Fund".

6 (7) Section 306(c) of the Outer Continental
7 Shelf Lands Act Amendments of 1978 (43 U.S.C.
8 1816(c)) is amended by deleting "Fund" and in-
9 serting in lieu thereof "Oil Pollution Account of
10 the Fund".

11 (8) Sections 307, 308, and 312 of the Outer
12 Continental Shelf Lands Act Amendments of
13 1978 (43 U.S.C. 1817, 1818, and 1822) are
14 amended by deleting "Fund" each place where it
15 appears in those sections and inserting in lieu
16 thereof "Oil Pollution Account of the Fund."

17 (9) Section 309(b) of the Outer Continental
18 Shelf Lands Act Amendments of 1978 (43 U.S.C.
19 1819(b)) is amended by inserting "and the Oil Pol-
20 lution Account within the Fund" after "Fund".

21 SEC. 102. OILSPILL RESEARCH AND DEVELOPMENT
22 CENTER.—Section 302 of the Outer Continental Shelf Lands
23 Act Amendments of 1978 (43 U.S.C. 1812) is amended by
24 adding the following new subsection:

1 “(g)(1) The Secretary of the Department in which the
2 Coast Guard is operating shall establish a Research and De-
3 velopment Center (hereinafter referred to as the ‘Center’) to
4 be administered by the Commandant of the Coast Guard.

5 “(2) The Center shall conduct and support, through con-
6 tracts and grants, research, development, testing, and train-
7 ing in the best available techniques, equipment, and materials
8 to prevent, contain, remove, recover, and clean up oil spills
9 by vessels transporting oil affecting the navigable waters of
10 the United States and those waters extending seaward from
11 the coastline of the United States to the seaward boundary of
12 the exclusive economic zone as established under Presidential
13 Proclamation Numbered 5030, dated March 10, 1983.

14 “(3) In administering the Center, the Secretary of the
15 Department in which the Coast Guard is operating shall con-
16 sult regularly with representatives of the Departments of
17 Commerce, the Interior, the Environmental Protection
18 Agency, the Navy, foreign governments, international orga-
19 nizations, and knowledgeable academic, industry, and other
20 persons in order to identify and pursue development of the
21 best available techniques, equipment, and materials.

22 “(4) There are authorized to be appropriated to the Sec-
23 retary of the Department in which the Coast Guard is oper-
24 ating, for purposes of carrying out the provisions of this sec-

1 tion, \$10,000,000 in each of the fiscal years ending Septem-
2 ber 30, 1990 through September 30, 1995.”.

3 SEC. 103. OILSPILL CONTINGENCY PLANS.—Section 5
4 of the Outer Continental Shelf Lands Act (43 U.S.C. 1334)
5 is amended by adding at the end thereof a new subsection (j)
6 as follows:

7 “(j) The holder of any oil or gas lease issued or main-
8 tained under this Act shall submit an oil spill contingency
9 plan for approval by the Secretary prior to engaging in any
10 exploration, development or production activities on such
11 lease.”.

12 SEC. 104. INSPECTION OF OILSPILL PREVENTION AND
13 CONTAINMENT EQUIPMENT FOR THE OUTER CONTINEN-
14 TAL SHELF.—Section 22(c) of the Outer Continental Shelf
15 Lands Act (43 U.S.C. 1348(c)) is amended by deleting the
16 word “and” at the end of paragraph (1), replacing the period
17 at the end of paragraph (2) with ”; and” and adding a new
18 paragraph (3) as follows:

19 “(3) an onsite inspection no less than two times
20 each year without advanced notice to the operator of
21 such facility of all equipment to prevent, ameliorate, or
22 contain oil spillages, including equipment maintained
23 by contractors.”.

24 SEC. 105. DRILLS AND REQUIRED EQUIPMENT.—Sec-
25 tion 22 of the Outer Continental Shelf Lands Act (43 U.S.C.

1 1348) is amended by redesignating subsections (d) through (g)
2 as subsections (e) through (h) and inserting a new subsection
3 (d) as follows:

4 “(d) The Secretary and the Secretary of the Department
5 in which the Coast Guard is operating shall individually, or
6 jointly if they so agree, promulgate regulations—

7 “(1) to provide for drills for familiarization with
8 pollution control equipment and operational procedures
9 when the equipment is placed initially and at least
10 once every six months by the lessee or a contractor
11 serving the lessee, with such drills simulating condi-
12 tions in the area of operations and including deploy-
13 ment and operation of equipment; and

14 “(2) to require that equipment which the Secre-
15 tary and the Secretary of the Department in which the
16 Coast Guard is operating deem to be essential to carry
17 out the oilspill contingency plan and to ensure the
18 prompt containment of spilled oil be maintained at the
19 site of operations.”.

20 TITLE II—OILSPILL CONTINGENCY PLANNING

21 SEC. 201. APPLICABILITY.—This title applies to
22 owners or operators of vessels transporting oil in the Gulf of
23 Mexico or the lower Mississippi River and owners or opera-
24 tors of oil-producing, refining, or transportation facilities that,
25 due to their location, reasonably could be expected to spill oil

1 into or upon the Gulf of Mexico or the lower Mississippi
2 River or adjoining shorelines.

3 SEC. 202. OILSPILL CONTINGENCY PLANS.—Not later
4 than one hundred and eighty days after the date of enactment
5 of this Act, the Secretary shall issue a final rule requiring
6 persons subject to this section to prepare and submit to the
7 Secretary for approval an oilspill contingency plan for the
8 prevention, containment, and cleanup of oilspills from vessels
9 or facilities described in section 201. At a minimum, such
10 plans must include—

11 (a) a clear and precise, detailed description of how
12 the individual plan relates to and is integrated into the
13 overall National Contingency Plan;

14 (b) an analysis of the “maximum probable spill”
15 from the facility or vessel determined in accordance
16 with the guidelines established under section 205 of
17 this Act;

18 (c) procedures for early detection and timely noti-
19 fication regarding oilspills;

20 (d) a description of procedures to be used to mini-
21 mize the damage from a spill and to make immediate
22 repairs if possible;

23 (e) a description of countermeasures, response and
24 cleanup personnel and equipment and their locations,
25 and the time required to deploy them at the spill site;

1 (f) procedures to assess the severity of the oilspill,
2 to plan countermeasures, and to begin cleanup efforts;
3 and

4 (g) provisions for disposal of recovered spill mate-
5 rial. Such plans shall not be required for any facility or
6 vessel covered by an oilspill contingency plan required
7 by the Outer Continental Shelf Lands Act. With re-
8 spect to vessels, such plans shall be required to the
9 maximum extent consistent with international law.

10 SEC. 203. COOPERATIVE EFFORTS.—In complying
11 with this section, an owner or operator of a vessel or facility
12 may rely on his or her participation in a cooperative effort
13 with other persons subject to this title to develop satisfactory
14 contingency plans.

15 SEC. 204. APPROVAL OF PLANS.—(a) In approving the
16 contingency plans required by this title, the Secretary shall
17 consider the adequacy of risk analysis in the determination of
18 maximum probable spill, the estimated response time, and the
19 adequacy of trained personnel and communications equip-
20 ment, and equipment to prevent, ameliorate, and contain oil
21 spillages.

22 (b) No plan shall be approved unless the Secretary de-
23 termines that the equipment listed in the plan is sufficient to
24 respond to the maximum probable spill from the vessel or
25 facility in question.

1 SEC. 205. GUIDELINES FOR MAXIMUM PROBABLE

2 SPILL.—The Secretary shall publish guidelines for the deter-
3 mination of maximum probable spill from a vessel or facility,
4 taking into account the amount of oil being transported,
5 stored, or transferred, weather and other natural conditions,
6 technological capability, and the risk of a spill.

7 SEC. 206. PUBLIC AWARENESS AND PRACTICE

8 DRILLS.—(a) The Secretary shall annually publish an up-to-
9 date list of the contingency plans prepared for oilspills in the
10 Gulf of Mexico and the lower Mississippi River and an inven-
11 tory of equipment available for responding to such spills.

12 (b) The Secretary shall annually conduct practice drills
13 of the contingency plans prepared for oilspills in the Gulf of
14 Mexico and the lower Mississippi River pursuant to this title.
15 The Secretary shall publish a report on such drills including
16 an assessment of actual response time, available equipment
17 as compared to equipment listed in the contingency plans,
18 and requirements, if necessary, for changes in the plans.

19 SEC. 207. PREPARATION OF REPORT ON ADEQUACY

20 OF OILSPILL CONTINGENCY PLANS.—(a) Within one hun-
21 dred and eighty days of the date of enactment of this Act, the
22 Secretary of Transportation, the Secretary of the Interior
23 and the Administrator of the Environmental Protection
24 Agency shall submit to the Congress a report which shall
25 include their recommendations, based upon an in-depth

1 review of all Federal, State, local, and industry contingency
2 or oilspill emergency response plans, for dealing with oilspills
3 in connection with the exploration, development, and trans-
4 portation of oil in the Gulf of Mexico and lower Mississippi
5 River. The review shall include, but not be limited to, all
6 plans dealing with such oilspills required by the Outer Conti-
7 nental Shelf Lands Act (43 U.S.C. 1331, et seq.), the Feder-
8 al Water Pollution Control Act (33 U.S.C. 1251, et seq.),
9 and the Deepwater Port Act of 1974 (33 U.S.C. 1501, et
10 seq.).

11 (b) The review and report on contingency plan adequacy
12 shall address, but not be limited to, the following subjects:

13 (1) The adequacy of the contingency or oilspill
14 emergency response plan for dealing with potential oil-
15 spills;

16 (2) The adequacy and operational capacity of oil-
17 spill containment equipment, including, but not limited
18 to, containment booms, oil skimming vessels, barge fa-
19 cilities, work vessels, oilspill dispersants and equip-
20 ment for their application;

21 (3) The adequacy, training, preparedness, and fit-
22 ness of all personnel assigned to direct and implement
23 the contingency or oilspill emergency response plan;

1 (4) The adequacy of plans, personnel and preposi-
2 tioned equipment for protecting wetlands, critical habi-
3 tat, environmentally sensitive areas, and fisheries;

4 (5) The adequacy of onsite availability of chemical
5 dispersants and dispersing systems; and

6 (6) The adequacy of arrangements for enlisting
7 the use of non-oil-industry personnel and calling upon
8 backup assistance from sources such as the national
9 guard or the military.

10 TITLE III.—VESSEL DESIGN AND SPILL
11 PREVENTION

12 SEC. 301. REPORT AND RECOMMENDATIONS ON
13 SPILLS AND VESSEL DESIGN.—Within ninety days of the
14 date of enactment of this Act, the Secretary shall submit to
15 the Congress a report which addresses and makes recommen-
16 dations on the following transportation issues related to the
17 movement of oil through the Gulf of Mexico and the lower
18 Mississippi River:

19 (a) A review of all recent oilspills in the Gulf of
20 Mexico and the lower Mississippi River involving ves-
21 sels, and whether any of these spills could have been
22 prevented by requiring double hulls or double bottoms
23 on such vessels, or requiring additional safety lines be-
24 tween towing vessels;

1 (b) The need or desirability, from a safety point of
2 view, for a requirement that existing vessels engaged
3 in the transport of oil be retrofitted and that new ves-
4 sels engaged in the transport of oil be constructed to
5 incorporate—

6 (1) double bottoms or interior liners to reduce
7 oil spill risks;

8 (2) an increased number of separated com-
9 partments;

10 (3) bow thrusters to increase vessel maneu-
11 verability; and

12 (4) any other design, equipment, or oper-
13 ational feature which will achieve the purposes of
14 this section and this Act to reduce the risk of oil
15 discharges from tanker or other vessel accidents,
16 groundings, or collisions.

17 (c) The need or desirability, from a safety point of
18 view, for more frequent and more rigorous Coast
19 Guard safety and structural inspections of all vessels
20 engaged in the transportation of oil in the Gulf of
21 Mexico and lower Mississippi River, including both in-
22 water inspections and dry dock inspections, with spe-
23 cial attention directed to older vessels and to vessels
24 over seven hundred feet in length.

1 SEC. 302. REGULATIONS ON VESSEL CREW REQUIRE-
2 MENTS AND TRAINING.—Effective within ninety days of the
3 date of enactment of this Act, the Secretary shall issue regu-
4 lations which—

5 (a) provide that the conditions for a masters li-
6 cense for any person required to have such license who
7 is engaged in the operation of a vessel transporting oil
8 in the Gulf of Mexico or the lower Mississippi River
9 shall require that the license be renewed every two
10 years and the license holder shall submit a copy of the
11 required physical examination by a licensed physician
12 to the appropriate Federal agency;

13 (b) provide that all required certificates of inspec-
14 tion for vessels engaged in the movement and transport
15 of oil in the Gulf of Mexico or the lower Mississippi
16 River direct and require that all watches on board ship
17 be redundantly manned to insure backup personnel and
18 second opinions on radar monitoring and critical navi-
19 gation decisions; and

20 (c) provide to the maximum extent practicable
21 more stringent recruiting, personnel, and job training
22 standards for all personnel and crew operating or crew-
23 ing vessels engaged in the movement or transport of
24 oil in the Gulf of Mexico or the lower Mississippi River

1 for the purpose of enhancing safety and reducing future
2 risks of oil spill to the lowest level humanly possible.

3 SEC. 303. EQUIPMENT STANDARDS.—Not later than
4 one year after the date of enactment of this Act, the Secre-
5 tary shall issue a final rule listing the equipment that must be
6 carried by vessels transporting oil in the Gulf of Mexico or
7 the lower Mississippi River to carry out the oilspill cotin-
8 gency plans required by section 202 of this Act.

9 SEC. 304. INSPECTION AND MAINTENANCE.—The
10 Secretary shall implement regulations providing for inspec-
11 tion of vessels transporting oil in the Gulf of Mexico or the
12 lower Mississippi River to ensure that each vessel is in com-
13 pliance with the oilspill contingency plan required by section
14 202 of this Act, and to ensure that equipment required by
15 section 303 of this Act is onboard and in good working order.

16 TITLE IV—NO IMPACT ON STATE LAW OR ON
17 LIABILITY UNDER OTHER LAW

18 SEC. 401. STATE LAWS AND PROGRAMS.—Nothing in
19 this Act shall be construed or interpreted as preempting any
20 State from imposing any liability or other requirements with
21 respect to oilspills or to the discharge of oil within such
22 State.

23 SEC. 402. LIABILITY FOR OILSPILLS OR DISCHARGES
24 OF OIL NOT AFFECTED BY THIS ACT.—(a) Nothing in this
25 Act shall affect or modify in any way the obligations or liabil-

1 ities of any person under other Federal or State law, includ-
2 ing common law, with respect to oilspills or the discharge of
3 oil.

4 (b) Nothing in this Act shall absolve any person of any
5 obligations or liabilities, or reduce the obligations or liabilities
6 of any person, under existing Federal or State law, including
7 common law, with respect to oilspills or discharges of oil oc-
8 ccurring prior to the date of enactment of this Act.

9 TITLE V—PENALTIES

10 SEC. 501. (a) CIVIL PENALTIES.—A person violating any
11 provision of titles II and III of this Act or a regulation issued
12 under such titles is liable to the United States for a civil
13 penalty of not more than \$25,000. Each day of a continuing
14 violation is a separate violation.

15 (b) VESSELS.—Each vessel to which titles II and III
16 apply that is operated in violation of such titles or a regula-
17 tion issued under such titles is liable in rem for a civil penalty
18 as prescribed in subsection (a) of this section.

19 (c) CRIMINAL PENALTIES.—A person willfully and
20 knowingly violating any provision of titles II and III of this
21 Act or a regulation issued under such titles shall be fined not
22 more than \$100,000, imprisoned for not more than five
23 years, or both.

24 (d) JURISDICTION.—The district courts of the United
25 States have jurisdiction to restrain a violation of any provi-

1 sion of titles II and III of this Act or a regulation issued
2 under such titles.

3 TITLE VI—COOPERATIVE DEVELOPMENT OF
4 COMMON HYDROCARBON-BEARING AREAS

5 SEC. 601. COOPERATIVE DEVELOPMENT OF COMMON
6 HYDROCARBON-BEARING AREAS.—Section 5 of the Outer
7 Continental Shelf Lands Act, as amended (42 U.S.C. 1334),
8 is amended by adding a new subsection (j) as follows:

9 “(j) COOPERATIVE DEVELOPMENT OF COMMON HYDRO-
10 CARBON-BEARING AREAS.—

11 “(1) FINDINGS.—

12 “(A) The Congress of the United States finds
13 that the unrestrained competitive production of
14 hydrocarbons from a common hydrocarbon-bearing
15 geological area underlying the Federal and State
16 boundary may result in a number of harmful na-
17 tional effects, including—

18 “(I) the drilling of unnecessary wells,
19 the installation of unnecessary facilities and
20 other imprudent operating practices that
21 result in economic waste, environmental
22 damage and damage to life and property;

23 “(II) the physical waste of hydrocarbons
24 and an unnecessary reduction in the amounts

1 of hydrocarbons that can be produced from
2 certain hydrocarbon-bearing areas; and

3 "(III) the loss of correlative rights
4 which can result in the reduced value of na-
5 tional hydrocarbon resources and disorders in
6 the leasing of Federal and State resources.

7 "(2) The Secretary shall prevent the harmful ef-
8 fects of unrestrained competitive production of hydro-
9 carbons from a common hydrocarbon-bearing area un-
10 derlying the Federal and State boundary by protecting
11 against drainage through the cooperative development
12 of such area.

13 "(3) Whenever it shall appear that Federal oil and
14 gas resources on the Outer Continental Shelf are being
15 drained, or are about to be drained, by a State or any
16 lessee, permittee or agent of a State, the Attorney
17 General may institute a civil action in the district court
18 of the United States for the judicial district in which
19 the lease or land involved is located, for a temporary
20 restraining order, injunction, or other appropriate
21 remedy, in order to prevent the drainage of Federal oil
22 and gas resources. Such relief shall be granted if it ap-
23 pears that Federal oil and gas resources on the Outer
24 Continental Shelf are being drained or are about to be
25 drained and the Secretary and the Governor do not

1 agree as to the method of cooperative development of
2 the common hydrocarbon-bearing area, including the
3 fair and equitable apportionment of the oil and gas re-
4 sources involved. Such temporary restraining order, in-
5 junction, or other appropriate remedy shall remain in
6 full force and effect until such time as the Secretary
7 and the Governor of the State reach agreement on
8 such method of cooperative development and appor-
9 tionment of resources or until the court enters a final
10 judgment on the merits of the matter.

11 "(4) Whenever it shall appear that State oil and gas
12 resources on the Outer Continental Shelf are being drained,
13 or are about to be drained, by the United States or any
14 lessee, permittee, or agent of the United States, the State
15 may institute a civil action in the district court of the United
16 States for the judicial district in which the lease or land in-
17 volved is located, for a temporary restraining order, injunc-
18 tion, or other appropriate remedy, in order to prevent the
19 drainage of State oil and gas resources. Such relief shall be
20 granted if it appears that State oil and gas resources on the
21 Outer Continental Shelf are being drained or are about to be
22 drained and the Secretary and the Governor do not agree as
23 to the method of cooperative development of the common
24 hydrocarbon-bearing area, including the fair and equitable
25 apportionment of the oil and gas resources involved. Such

1 temporary restraining order, injunction, or other appropriate
2 remedy shall remain in full force and effect until such time as
3 the Secretary and the Governor of the State reach agreement
4 on such method of cooperative development and apportion-
5 ment of resources or until the court enters a final judgment
6 on the merits of the matter.”.

Senator METZENBAUM. Could the Senator from Idaho give us some idea of the thrust of his statement? Is he supportive of the legislation or opposed to it?

Senator McCLURE. Do you want to read it?

Senator METZENBAUM. Not really.

Senator McCLURE. Yes.

Senator METZENBAUM. You're supportive.

Mr. Chairman.

The CHAIRMAN. Yes, Senator Metzenbaum.

Senator METZENBAUM. I am interested in your legislation and I think, although I have not had a chance to study the exact terms, am generally supportive of its thrust.

My question is: Does the Senator from Louisiana feel that the concerns which he has expressed with respect to the destruction of the wetlands by reason of inappropriate drilling and other problems and the creation of a fund should or could be expanded to areas other than the bay area, the Gulf area, near Louisiana?

The CHAIRMAN. Well, the Gulf area is a special circumstance because that is where over 90 percent, I think maybe over 95 percent, of the oil and gas offshore is produced. It is a problem that impacts the wetlands of Louisiana specifically, and Texas to some extent, but principally Louisiana.

Keep in mind that 80 percent of the coastal wetlands that are being lost are being lost in Louisiana, and a similar percentage of the gas in the Gulf is produced there.

So while wetlands in general are a problem nationwide, when most people speak, I think probably when the President was speaking of wetlands, I don't know whether he was thinking about coastal wetlands in Louisiana; he was probably thinking about inland wetlands.

Senator METZENBAUM. Florida's wetlands?

The CHAIRMAN. Well, Florida has a lot of wetlands, but there is no drilling in Florida. In fact, there is a moratorium on drilling in Florida, which I expect to survive.

In Louisiana, we were the first coastal state with wetlands to have drilling. That was over 50 years ago, and a lot of the technology there was such that they either didn't know or didn't think about the wetlands. They would dredge canals through which there would be salt water intrusion.

So there is a direct relationship between the drilling and the loss of wetlands. It is not complete at all. I mean, there are other causes for it. But those are big causes of them.

Senator METZENBAUM. Is the Senator from Ohio correct in his understanding that the Senators from Louisiana would use a parliamentary procedure in order to move this amendment as legislation, notwithstanding the failure to move the basic Arctic National Wildlife Refuge Bill?

The CHAIRMAN. That's correct.

We are not trying to move the ANWR bill.

Senator METZENBAUM. That was my question and I thank the Chair.

The CHAIRMAN. I want to thank our witnesses and we will begin.

Senator McCLURE. Mr. Chairman, before doing that, I had assumed that the Senator from Ohio's interest was with respect to

the oil shipment, rather than just ANWR. I may have misjudged that reason for his question.

Senator METZENBAUM. I'm sorry, but I didn't hear that.

Senator MCCLURE. I had assumed that the interest of the Senator from Ohio, and hence his question of the Senator from Idaho, dealt with oil shipments. Certainly if his question is with respect to ANWR, I would be happy to answer that question, too.

But I had assumed that, since it was about shipments, the Senator from Ohio might have been dealing with only his own Ohio history. I believe the first oil shipments in the continental United States were in Ohio.

Senator METZENBAUM. They may or may not have been.

Senator MCCLURE. Ohio has more or less indifferently survived that hazard.

Senator METZENBAUM. We have survived well.

The CHAIRMAN. I might tell the Senator that, of the 3,941 offshore wells, oil wells, the Gulf of Mexico has 3,579, or about something over 90 percent, probably about 95 percent. The same is true of natural gas, even moreso of natural gas. There are only 24 natural gas wells in the Pacific, and there are 3,135 in the Gulf.

So this is a Gulf problem, principally.

Senator METZENBAUM. I thank the Chair.

The CHAIRMAN. I want to welcome our witnesses today. We are glad to have Admiral Lusk back. He is Vice Commandant of the United States Coast Guard.

Admiral, we are glad to have you back.

STATEMENT OF VICE ADM, CLYDE T. LUSK, JR., VICE COMMANDANT, U.S. COAST GUARD, ACCOMPANIED BY REAR ADMIRAL EDWARD GILBERT, RESOURCE DIRECTOR AND COMPTROLLER, U.S. COAST GUARD

Admiral LUSK. Thank you, sir, very much.

Mr. Chairman, I am very pleased to meet with you and with other Members of the Committee to discuss the Gulf of Mexico Oil Spill Prevention and Response Act.

With me, sir, are, on my immediate right, Rear Admiral Ed Gilbert, who is the Coast Guard's Resource Director and Comptroller; and, in the other part of the room I have Captain Charles Corbett, who is available to support me if you have any questions that I cannot answer regarding oil pollution liability issues; and Captain Rick Larrabee, who is the Chief of the Coast Guard's Marine Environmental Protection Division.

Mr. Chairman, I understand that the somewhat lengthy written statement that I submitted to you during Friday's session will be accepted into today's record.

The CHAIRMAN. Yes, indeed.

Admiral LUSK. With your permission, sir, I would like to add just a few brief remarks to the oral statement that I made to accompany that written statement last Friday.

Mr. Chairman, the Coast Guard responds to an average of 8,800 oil spills a year, but the Valdez, Narragansett Bay, Delaware River, and Houston Ship Channel spills provide startling reminders of the need to be ready.

We are not as ready as we would like to be, Mr. Chairman. Regretably, resource limits do provide constraints.

Since Valdez, we have, as I itemized Friday, initiated many studies, legislative initiatives, which, combined with certain draft regulations, should do much to improve the Nation's ability to prevent spills and to minimize damage from those spills that will, unfortunately but inevitably, occur.

Those efforts are toward goals similar to those which inspired the bill on which we are focusing today.

Because the amendment is new, we have not had an opportunity to clear an administration position. But we do have a preliminary analysis, and I can offer some observations.

First of all, sir, we do support the intent of the amendment, which is to reduce the potential for oil spills and to enhance the capability to respond to those which do occur. We may be unable to support even those provisions with which we totally agree unless we are provided resources to do what the legislation would require of us.

The budget situation, sir, is such that we are at serious risk in even maintaining the Coast Guard at its current size and scope of operation.

Much of the intent of the new bill, sir, will be fulfilled by enactment of bills the administration has proposed. First, and most important of those, is the Comprehensive Oil Spill Liability and Compensation Act, which will implement the protocols to the Civil Liability Conventions (CLC) and Fund Conventions. This will establish the essential framework and structure to support response and restoration activities.

In addition, sir, the administration has proposed legislation to allow greater access to information on auto driving history of those involved in the operation of oil tankers and other commercial licenses, and to allow much greater flexibility to decline to issue or to suspend or revoke the licenses of those who should not be entrusted with such responsibilities.

We are anxious to work with you and your staffs to develop appropriate legislation, sir. We suggest that in this process, we should try to avoid a piecemeal approach with a separate bill for each area of the country. Such legislation would be extremely difficult to administer and could work to the detriment of our mutual goals.

I suggest, sir, that consideration be given to legislation which provides Congressional guidelines, but which leaves to the Secretary a certain discretion in the content of the final regulatory packages. This will allow us to take advantage of the findings of studies which we are currently conducting in formulating these regulations.

Mr. Chairman, that concludes my oral statement. My staff and I would be delighted to try to respond to any questions you have.

[The statement of Admiral Lusk follows:]

DEPARTMENT OF TRANSPORTATION
U.S. COAST GUARD
STATEMENT OF VICE ADMIRAL CLYDE T. LUSK, JR.
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
21 AND 24 JULY 1989

GOOD MORNING, MR. CHAIRMAN. I AM PLEASED TO MEET WITH YOU AND THE OTHER DISTINGUISHED MEMBERS OF THIS COMMITTEE TO DISCUSS SENATE AMENDMENTS NUMBER 100 AND 229, THE PRINCE WILLIAM SOUND OIL SPILL EMERGENCY ACT OF 1989 AND GULF OF MEXICO OIL SPILL PREVENTION AND RESPONSE ACT, RESPECTIVELY. WITH ME TODAY IS REAR ADMIRAL JOEL D. SIPES, CHIEF OF THE COAST GUARD'S OFFICE OF MARINE SAFETY, SECURITY AND ENVIRONMENTAL PROTECTION AND REAR ADMIRAL MARSHALL E. GILBERT, THE COAST GUARD'S RESOURCE DIRECTOR/COMPTROLLER.

THE EXXON VALDEZ SPILL AND THE THREE RECENT SPILLS IN RHODE ISLAND, PENNSYLVANIA AND TEXAS HAVE BEEN A STARTLING REMINDER OF THE NEED TO BE READY AND TO HAVE ADEQUATE RESOURCES TO RESPOND TO SUCH EVENTS. EARLY LESSONS LEARNED FROM VALDEZ WERE PROVIDED TO THE PRESIDENT AND MANY INITIATIVES ARE UNDERWAY TO REDUCE THE LIKELIHOOD OF RECURRENCE AND TO INCREASE RESPONSE CAPABILITY. THE COAST GUARD HAS INITIATED A THOROUGH REVIEW OF ALL PORT CONTINGENCY PLANS AND A NUMBER OF AREAS WHICH CONTRIBUTE TO SPILL PREVENTION SUCH AS SHIP DESIGN, VESSEL MANNING AND LICENSING, PILOTAGE AND INSPECTION ARE BEING CAREFULLY RESTUDIED. CONGRESS AND THE ADMINISTRATION HAVE PROPOSED NEW LAWS TO STRENGTHEN OUR

ABILITY TO PREVENT AND CLEAN UP FUTURE OIL SPILLS. INDUSTRY HAS PROPOSED A SUBSTANTIAL INCREASE IN RESPONSE CAPABILITY AND A COMMITMENT TO RESEARCH AND DEVELOPMENT (R&D).

IN ACCORDANCE WITH VARIOUS PROVISIONS OF THE CLEAN WATER ACT AND THE NATIONAL CONTINGENCY PLAN, THE COAST GUARD PROVIDES THE PREDESIGNATED FEDERAL ON-SCENE COORDINATORS FOR POLLUTION INCIDENTS OCCURRING IN THE COASTAL ZONE. IN THE LAST TEN YEARS, THE COAST GUARD HAS RESPONDED TO APPROXIMATELY 8,800 OIL SPILLS ANNUALLY. THE SIZE OF THE SPILLS RANGED FROM ONE GALLON TO 2.8 MILLION GALLONS. THE VAST MAJORITY OF THE SPILLS INVOLVE LESS THAN 10,000 GALLONS; OCCUR IN SHELTERED WATERS; AND ARE ROUTINELY CLEANED UP USING CONVENTIONAL CLEANUP METHODS. GENERALLY, MECHANICAL TECHNIQUES ARE USED TO CONTAIN OR DEFLECT OIL INTO AN AREA WHERE IT CAN BE REMOVED FROM THE SURFACE OF THE WATER USING SKIMMERS, PUMPS, ABSORBENT MATERIAL, MANUAL TECHNIQUES AND NON-SPECIALIZED EQUIPMENT, SUCH AS VACUUM TRUCKS. WHEN THE OIL IMPACTS THE SHORELINE, A LENGTHY, TEDIOUS AND LABOR INTENSIVE CLEANUP USUALLY IS NECESSARY. DURING A SHORELINE CLEANUP, GREAT EMPHASIS IS PLACED ON LIMITING ADDITIONAL ENVIRONMENTAL DAMAGE, INCLUDING HARM TO FISH AND WILDLIFE. THE EXXON VALDEZ SPILL IS UNIQUE BECAUSE OF ITS REMOTE LOCATION AND ENORMITY, FOUR TIMES LARGER THAN OUR PREVIOUS MOST SIGNIFICANT SPILL.

WE CERTAINLY RECOGNIZE YOUR CONCERN, MR. CHAIRMAN, AS WELL AS THE OTHER MEMBERS OF CONGRESS WHO HAVE INTRODUCED THE MORE THAN 30 BILLS WHICH WERE GENERATED IN THE AFTERMATH OF THE EXXON VALDEZ OIL SPILL. I WOULD LIKE TO BRIEFLY TOUCH ON SOME OF THE COAST GUARD INITIATIVES WHICH HAVE ARISEN FROM, OR BEEN HEIGHTENED BY, THE EXXON VALDEZ GROUNDING.

NAVIGATION INITIATIVES

WE HAVE A NUMBER OF NAVIGATION INITIATIVES UNDERWAY INCLUDING A STUDY TO ESTABLISH A PRIORITIZED LIST OF THOSE U.S. PORTS AND WATERWAYS THAT WOULD BENEFIT BY HAVING A VESSEL TRAFFIC SYSTEM (VTS) OR ALTERNATIVE MANAGEMENT NETWORK TOGETHER WITH A SUMMARY OF THE NECESSARY CAPITAL INVESTMENT. FURTHER, WE HAVE BEGUN AN OPERATIONAL AND TECHNICAL REVIEW OF OUR EXISTING VTS'S IN ORDER TO DETERMINE IF NEAR TERM CHANGES ARE NECESSARY. A THIRD MAJOR NAVIGATION INITIATIVE WILL INVOLVE AN IN-DEPTH TECHNICAL AND OPERATIONAL REVIEW OF VTS EQUIPMENT TO IDENTIFY NEEDED UPGRADES OR CHANGES.

REVIEW OF PILOTAGE AUTHORITIES/REQUIREMENTS

A PILOTAGE STUDY WAS RECENTLY CONVENED TO CONSIDER THE NEED FOR CHANGES TO RELATED STATUTES, REGULATIONS, AND POLICIES. THE STUDY WILL ADDRESS ISSUES INCLUDING QUALIFICATIONS FOR LICENSED PERSONNEL DEPENDING ON NATURE OF VOYAGE, TYPE OF CARGO BEING TRANSPORTED, TYPE OF SERVICE, AND OTHER VARIABLES. ADDITIONALLY, THE SCOPE OF PILOTAGE WATERS, RELATIONSHIP BETWEEN VESSEL TYPE AND PILOTAGE NEEDS, CERTIFICATION AND TRAINING, PILOT/MASTER AUTHORITIES, AND ROLES OF FEDERAL AND STATE GOVERNMENTS WILL BE LOOKED AT.

POLLUTION RELATED RESEARCH AND DEVELOPMENT

THE COAST GUARD'S R&D EFFORTS HAVE RESULTED IN SEVERAL EQUIPMENT SYSTEMS WHICH ARE USED BY OUR STRIKE TEAMS. THESE INCLUDE THE HIGH SEAS OIL RECOVERY SYSTEM WHICH IS AN OPEN OCEAN CONTAINMENT BOOM WITH OIL SKIMMING AND RECOVERY CAPABILITY; THE

AIR DELIVERABLE, ANTIPOLLUTION TRANSFER SYSTEM (ADAPTS) WHICH IS THE PUMP AND HOSE SYSTEM USED TO OFF-LOAD TANK VESSELS OUT OF THE TOP OF THE TANKS; AND OUR VISCOUS OIL PUMPING SYSTEMS. THESE SYSTEMS ARE AIR DELIVERABLE BY COAST GUARD AIRCRAFT AND ARE "STATE OF THE ART." AN INFRARED REMOTE SENSING PACKAGE WAS DEVELOPED FOR COAST GUARD HU-25 INTERCEPTORS AND WAS USED EXTENSIVELY IN VALDEZ. THE CENTRAL OIL IDENTIFICATION LABORATORY WAS DEVELOPED TO USE SAMPLE ANALYSIS TECHNIQUES TO IDENTIFY THE SOURCE OF DISCHARGED OIL. THIS SYSTEM HAS BEEN ACCEPTED IN THE JUDICIAL SYSTEM AND HAS BEEN USED SUCCESSFULLY IN HUNDREDS OF CASES, INCLUDING VALDEZ.

EARLIER THIS YEAR, THE COAST GUARD RECOGNIZED THE NEED TO REEVALUATE ITS R&D PROGRAM, ESPECIALLY RELATED TO DISCHARGES OF OIL INTO THE MARINE ENVIRONMENT. THE FIRST TASK OF THIS EVALUATION WILL BE AN EXAMINATION OF THE WORLDWIDE STATE OF THE ART RESPONSE AND CLEANUP METHODS AND TECHNOLOGY. THIS EXAMINATION SHOULD REVEAL GAPS IN INFORMATION AND TECHNOLOGY NEEDS. WE HAVE ALREADY IDENTIFIED AREAS WHICH APPEAR TO WARRANT CONSIDERATION FOR FUTURE RESEARCH.

THE COAST GUARD RECOGNIZES THAT THE OIL INDUSTRY AND OTHER FEDERAL DEPARTMENTS AND AGENCIES, SUCH AS THE ENVIRONMENTAL PROTECTION AGENCY, DEPARTMENT OF THE INTERIOR, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND DEPARTMENT OF ENERGY, HAVE THEIR OWN OIL SPILL TECHNOLOGY R&D NEEDS AND PLANS. BECAUSE OF THIS WIDE AND VARIED INTEREST, FEDERAL R&D MUST BE COORDINATED TO GET THE MOST FROM LIMITED FUNDING. THE COAST GUARD IS PREPARED TO TAKE THE LEAD IN COORDINATING R&D EFFORTS IN THIS AREA.

CLEANUP/RESPONSE

OTHER CLEANUP AND RESPONSE INITIATIVES ARE UNDERWAY. THE COAST GUARD IS REVIEWING AN AMERICAN PETROLEUM INSTITUTE (API) STUDY, AND WILL MEET WITH API IN THE NEAR FUTURE TO DISCUSS THEIR RECOMMENDATIONS. AT THE SAME TIME, WE WILL BE ASSESSING EQUIPMENT AND PERSONNEL NEEDS FOR OUR NATIONAL STRIKE TEAM. A REVIEW OF STATUTORY AUTHORITIES IS UNDERWAY WHICH MAY LEAD TO REGULATORY PROPOSALS. THE EXXON VALDEZ SPILL RESPONSE SUGGESTS A NEED FOR DEVELOPING A NEW ORGANIZATION FOR RESPONDING TO SPILLS OF "NATIONAL SIGNIFICANCE". AS YOU KNOW, THE PRESIDENT PROPOSED AN AGREEMENT AT THE RECENT ECONOMIC SUMMIT IN PARIS, CONCERNING INTERNATIONAL COORDINATION OF RESPONSES TO CATASTROPHIC OIL SPILLS.

TANK VESSEL STUDIES

WE HAVE ASKED THE NATIONAL ACADEMY OF SCIENCES MARINE BOARD TO CONDUCT A COMPREHENSIVE ANALYSIS OF THE ROLE OF DOUBLE HULLS AND DOUBLE BOTTOMS IN FUTURE TANK VESSEL DESIGNS AND WE HAVE INITIATED AN IN-HOUSE TANKSHIP DOUBLE BOTTOM CASUALTY STUDY WHICH WILL BE COMPLETED LATER THIS SUMMER. ALSO, WE HAVE DEVELOPED AND ARE REFINING A PRELIMINARY LIST OF MEASURES TO REDUCE TANKER ACCIDENTAL OIL OUTFLOW.

WE ARE CONVENING A TANKER INSPECTION STUDY GROUP TO REVIEW OUR U.S. AND FOREIGN FLAG TANKSHIP INSPECTION PROGRAM. WE EXPECT THIS EFFORT WILL BE COMPLETE LATER THIS YEAR.

MERCHANT MARINERS LICENSING/DISCIPLINE MATTERS

SECRETARY SKINNER TRANSMITTED PROPOSED LEGISLATION TO CONGRESS LAST MONTH WHICH WOULD IMPROVE THE COAST GUARD'S ABILITY

TO MONITOR THE CHARACTER AND FITNESS OF THOSE PERSONS TO WHOM IT ISSUES A MERCHANT MARINER'S DOCUMENT, LICENSE, AND CERTIFICATE OF REGISTRY.

WE HAVE ALSO PROVIDED GUIDANCE TO OUR REGIONAL EXAM CENTERS ON THE FITNESS OF APPLICANTS WITH DRIVING WHILE INTOXICATED CONVICTIONS; AND HAVE DEVELOPED REGULATIONS REQUIRING MANDATORY REVOCATION OF LICENSE, CERTIFICATE OR DOCUMENT FOR CHRONIC ALCOHOLISM, SHIPBOARD OR ASHORE. ADDITIONALLY, THE ADMINISTRATION STRONGLY SUPPORTS RATIFICATION OF THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR SEAFARERS (STCW). RATIFICATION WOULD ENABLE THE COAST GUARD TO BETTER CONTROL AND ENFORCE PERSONNEL STANDARDS OF VISITING FOREIGN FLAG VESSELS.

COMPREHENSIVE OIL SPILL LIABILITY AND COMPENSATION LEGISLATION

CERTAINLY MR. CHAIRMAN, I WANT TO TAKE THIS OPPORTUNITY TO REITERATE THE ADMINISTRATION'S ONGOING AND STRONG SUPPORT FOR COMPREHENSIVE OIL SPILL LIABILITY AND COMPENSATION LEGISLATION AND RATIFICATION OF THE 1984 INTERNATIONAL PROTOCOLS TO THE CIVIL LIABILITY AND FUND CONVENTIONS. SECRETARY SKINNER IS TESTIFYING THIS MORNING BEFORE THE SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS ON THE NEED FOR THIS LEGISLATION.

MR. CHAIRMAN, SENATE AMENDMENTS NUMBER 100 AND 229 ARE CURRENTLY UNDER REVIEW WITHIN THE DEPARTMENT. THEREFORE, WE DO NOT HAVE A FORMAL POSITION ON THEM AT THIS TIME.

WE SUPPORT PASSAGE OF THE COMPREHENSIVE OIL SPILL LIABILITY AND COMPENSATION LEGISLATION, S. 1066. THIS LEGISLATION WOULD INCLUDE IMPLEMENTATION OF THE 1984 PROTOCOLS TO THE CLC AND FUND CONVENTIONS. WE LOOK FORWARD TO WORKING WITH YOU AS THIS LEGISLATION MOVES THROUGH CONGRESS.

MR. CHAIRMAN, THIS CONCLUDES MY STATEMENT. I WILL BE GLAD TO ANSWER ANY QUESTIONS THAT YOU OR THE OTHER MEMBERS OF COMMITTEE MAY HAVE.

The CHAIRMAN. Thank you very much, Admiral Lusk. We are delighted to have you.

We are glad to welcome back to the Committee—well, I guess you have not been before this Committee, Mr. Page; I guess it was before the Appropriations Committee. We talked about wetlands last time you were before the Committee, and I am delighted to have you back to talk about something specific. We hope we have a plan that is going to deal with it.

Welcome to the Committee.

STATEMENT OF ROBERT W. PAGE, ASSISTANT SECRETARY OF
THE ARMY (CIVIL WORKS)

Mr. PAGE. Thank you, Mr. Chairman. It is a pleasure to be here because we share your concerns over wetlands, particularly in the State of Louisiana. We have been following this issue very closely.

We wish to respond to your questions, to bring you up to date on what we are doing at this time, and hopefully to define some of the previous questions you had for us in our last Appropriations hearing.

Other than that, I do have a statement which I would like to submit for the record.

The CHAIRMAN. That will be fine.

Mr. PAGE. Thank you.

[The statement of Mr. Page follows:]

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)
COMPLETE STATEMENT OF
ROBERT W. PAGE
BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

Mr. Chairman and members of the Committee, I am Robert W. Page, Assistant Secretary of the Army (Civil Works). I am pleased to be here this afternoon to discuss Senate Amendment 229, the Gulf of Mexico Oil Spill Prevention and Response Act.

As you know, President Bush has stated that it is the Administration's objective to protect and preserve our wetlands and to adopt a national goal of "no net loss of wetlands". The President stated that he is committed to the preservation of the Nation's remaining wetlands and that achieving the national goal of no net loss of wetlands will require strengthening existing Federal programs and regulations that protect, maintain, and restore wetlands. The President believes that a coordinated Federal wetlands policy is needed, and that private and public sectors must be brought together at the State and local levels to find ways to conserve wetlands.

The President has established an inter-agency wetlands task force under the Domestic Policy Council. The task force will work towards no net loss of wetlands as a national goal. The wetlands inter-agency task force should play a major role in developing and implementing programs that encourage wetlands protection and recovery and in public education that fosters a better understanding of the value of wetlands as a national resource. I represent the Department of Defense on the task force.

Until the task force completes its objective, the Administration will not be in a position to comment on or support S. Amendment 229. However, I would like to take this opportunity to discuss the many programs of the Army Corps of Engineers in support of oil spill prevention and response and for the protection, enhancement, and creation of wetlands. The Army Civil Works program carried out by the Corps of Engineers is directly pertinent to both principal aspects of the bill - oil spill prevention and response and wetlands creation.

Oil Spill Prevention and Response

The Corps of Engineers has both the historical background and technical expertise to provide invaluable public service in connection with Federal responsibilities for oil spill prevention and recovery.

When the EXXON Valdez grounded on March 24, 1989, it created a crisis that the oil industry and the nation were not prepared to handle. The infrequency of such events over the years appears to have dampened the readiness capability for mitigating such a disaster. The dimensions of readiness required to cope with oil spills of this magnitude may in fact have been redefined by this event. The pristine environment that we believe is so important to protect rapidly magnified the extent, complexity and consequences of the spill.

We agree that there is a critical need for contingency planning to minimize impacts and respond to oil spills in an area. The Army Corps of Engineers is ready to participate fully in these efforts. Such efforts are a part of our ongoing domestic emergency preparedness program which focuses on natural, manmade and technological hazards. Our preparedness activities include development of plans, training, interagency coordination, readiness exercises, and establishment of needed command and

control facilities to ensure that we are able to respond effectively.

In the specific area of preparedness for response to oil spills, the Corps is represented on Regional Response Teams; we are involved with ongoing National Response Team efforts; many of our field offices have developed generic oil spill response plans for their areas of responsibility; and, our field offices are involved in the development and review of major port and other contingency plans whenever requested. For example, the Norfolk District of the Corps is involved with the State of Virginia effort to establish a state wide spill prevention and response program. This effort will focus on the Chesapeake Bay in Virginia and the Port of Hampton Roads.

Based on our response to the EXXON VALDEZ oil spill, we have been able to identify certain capabilities of the Corps and other Department of Defense (DOD) agencies that can be quickly brought to bear in response to such a catastrophic event. The spill response emphasized the capabilities of Corps dredges, and potentially those of industry, to handle high volumes of oil laden liquids; to act as self sustained command and control vessels; to act as mother vessels to fleets of smaller vessels; and, as rapidly deployable work stations with full housekeeping services. The involvement of Corps dredges in support of the Alaska oil spill cleanup proved once again the necessity for a Corps dredging capability that is immediately available to meet emergency needs. We are very proud of our accomplishments in Alaska. We believe it is very important to maintain and improve our existing dredging technology in order to prepare ourselves to respond better in the event of future oil spills.

In addition to the dredges, there are many Corps resources and capabilities that can be brought to bear in response to an oil spill. Among the capabilities we could bring to cleanup operations are engineering technical services and advice;

construction management; contract administration; real estate support services; the regulatory permitting program; laboratory and research facilities; environmental evaluations; and power generation. As demonstrated by our efforts in support of the development of DOD contingency plans for assisting in the Alaska oil spill clean up, we stand ready to support those agencies responsible for oil spill contingency planning and response with the resources and capabilities of the Corps. In addition, we have recently entered into discussions with the oil industry regarding public-private cooperation. We also made available to industry the lessons learned from our involvement as part of the DOD effort in assisting the Department of Transportation and the U.S. Coast Guard in the Valdez clean up operation.

Oil Spill Research and Development

One resource highlighted by the Alaska oil spill was the significant scientific and engineering expertise of the Corps Research and Development community. Scientific teams from two of the Corps R&D laboratories provided on-site technical support to the Alaska oil spill clean up effort beginning April 30, 1989. The specific purposes of the on-site visit were to make a preliminary assessment of the effectiveness of cleanup methods used on the shorelines, evaluate the site specific environmental conditions, and observe, obtain, and evaluate imagery and remote sensing data in the mapping of the extent of the spill and its impact on shorelines. The teams remained on-site until May 11, 1989, when their services were no longer needed.

New technology offers options for more effective containment and cleanup of major oil spills. Initial efforts have been undertaken in a number of agencies to evaluate these technology options for possible assistance in the future. One general thrust is to be better able to prevent the spread of the oil and reduce the area affected. Another is development of more effective methods to clean up contaminated areas and accelerate the full

environmental recovery of the region.

Two technologies being investigated by the Corps are remote sensing and advanced information fusion and management techniques. These techniques can be used to achieve rapid mapping of the distribution of oil on water and assess the condition of shorelines that have been contaminated. When used in conjunction with computerized and interactive data fusion techniques, the effectiveness of resources for recovering oil or protecting especially sensitive environmental areas can be optimized. Then, the most appropriate means for clean up of specific shoreline reaches can be determined and resources planned to accomplish the job. Time is critical and these new technologies provide dramatic time savings for acquiring the information needed for decision making and management of resources. Also, the logistics of supplying cleanup solvents is being evaluated, varying techniques of cleanup are being proposed, and spill-prevention methods are being considered.

The following are areas of recommended additional research for which we believe the Corps can provide assistance:

1. Real-time model for spills along US coasts.
2. Model technology for nearshore oil spill behavior.
3. Transportable breakwaters.
4. Techniques for cleaning beaches.
5. Equipment to retrofit hopper dredges for oil spill cleanup operations.
6. Bottom profiling techniques to determine movement of submerged petroleum masses.
7. Rapid means for monitoring coastline changes related to the Valdez, Alaska and other similar oil spills.
8. Safe conditions for use of conventional dredges.
9. Environmental impact of oil spill on wetlands, and aquatic and wildlife resources.
10. Recovery rate of beach and bottom substrates from oil

spill.

11. Analysis of impact of oil spill on esthetics, recreation, tourism, and other quality-of-life factors.
12. Long-term biological impacts of oil spills.
13. Impacts of oil on the productivity and food web integrity.
14. Biodegradation of oil spills.
15. Improved methods of remote sensing and imagery.

The Corps of Engineers has shown, both by its past accomplishments and its ongoing and proposed research, that it has the capability and talent to support oil spill contingency plans, recovery activities, and R&D efforts.

Wetlands

With regards to wetlands concerns, the Corps of Engineers has many years of expertise in environmental engineering, particularly with respect to wetlands restoration and creation science and technology. We believe this experience and knowledge is critical to the success of a coastal wetlands restoration, creation, and protection program.

At the Senate Energy and Natural Resources Appropriations hearing several months ago, you asked my reaction to the idea of the Army Corps of Engineers being the Federal Wetlands Czar. Since that time, I have given the idea a great deal of thought. It bears directly on the proposed legislation we are discussing today and I am glad to have the chance to update you on our thinking.

The Army Corps of Engineers is a can-do organization. Since the late 1960's the Corps has been building an organization to respond to growing environmental concerns and fully capable of an interdisciplinary approach to environmental problem solving. The Corps now has as many professionals in the environmental and

biological sciences as it has engineers. My view of the Corps role in wetlands programs is to be a principal technical and scientific agency in support of wetlands programs.

At the same time, other agencies have primary statutory missions and expertise in this area. Thus, I do not see the Corps as leading the parade. Rather, I see them using their engineering, environmental, and management capabilities in support of a unified interagency effort. I have discussed this with Bill Reilly, EPAs Administrator. We look forward to improving our coordination efforts through participation in the President's inter-agency wetlands task force.

In addition, we believe it is critical to have full involvement and support of states and localities, both technically and financially. We believe any wetlands program will only be strengthened by state and local involvement through technical expertise and by joint sponsorship of projects through cost sharing partnership arrangements.

Under existing authorities, the Corps of Engineers has been at work developing a strategy to deal with wetland losses in Louisiana. This strategy closely parallels the wetland provisions of Senate Amendment 229. The New Orleans District of the Corps has produced a Reconnaissance Report which would establish an interagency working relationship to identify and carry out appropriate wetland projects. While we have not completed our review of the Reconnaissance Report, it appears that we will give it favorable endorsement with a few modifications. Those modifications would specify a prominent policy role for EPA and full partnership for the affected states.

We would suggest that this study and management approach maybe a useful prototype for other areas of the country.

The study is called the Louisiana Comprehensive Coastal

Wetlands Study. The importance of Louisiana coastal wetlands and the rate of loss are well known and need not be repeated here. A continued loss is expected. Dealing with that loss and reducing its effects is what is at the heart of the Corps proposal and, I believe, at the heart of the wetlands provisions of Senate Amendment 229.

Louisiana Comprehensive Coastal Wetlands Study

The Louisiana Comprehensive Coastal Wetlands Study contains two phases: the reconnaissance study and the cost-shared feasibility study. The reconnaissance study has been completed. The reconnaissance study developed a blueprint for the feasibility study and recommended continuing to the feasibility study. The State of Louisiana has indicated its intent to cost share the feasibility study with the Federal government on a 50% - 50% basis.

In the feasibility study, the Corps will prepare a plan of structural and nonstructural alternatives that appear to be the most effective and efficient means of dealing with the coastal wetland loss problem. The plan will recommend alternatives without regard to who should/will implement them. Any plan that is developed will be coordinated with, and hopefully endorsed by, Federal, state, and local governments.

Coastal wetland loss in Louisiana is widespread and complex. Many agencies, interest groups, and individuals have proposed numerous ways to address the problem. The result is a fragmented, piecemeal approach that has proved insufficient to the task. This has led Federal, state, and local governments to seek a better strategy for preserving, restoring and enhancing Louisiana's unique and productive coastal ecosystem. The Louisiana Comprehensive Coastal Wetlands Study could yield just such a strategy.

The premise of the Louisiana Comprehensive Coastal Wetlands Study is that a coordinated, comprehensive approach to the critical wetland loss problem is essential. Otherwise, governments at all levels could invest considerable money and time and still not achieve the goal of preserving, restoring, and enhancing the wetlands. To make this a truly comprehensive effort, the study will consider all alternatives that address the problem, regardless of who may eventually implement them. This study includes the following measures:

Beneficial Uses of Dredged Material	Sediment Diversion
Freshwater Diversion	Shoreline Protection
Wetland Management	Stormwater/Wastewater Discharge
Vegetative Plantings	Non-Structural
Canal Modification	

The reconnaissance study calls for the Corps of Engineers and the State of Louisiana to do the bulk of the feasibility study. An interagency Planning Team and four Interagency Technical Working Groups will assist and guide the Corps and the state in formulating plans, reviewing and analyzing information, and screening plans. This interagency participation and coordination assures that a comprehensive plan will result from the study.

The Louisiana Comprehensive Coastal Wetlands Study provides a timely and cost effective opportunity to address the crisis of coastal wetland loss in Louisiana, and lessons learned from this interagency effort can be very helpful in addressing coastal wetlands restoration, creation and protection initiatives elsewhere in the nation.

There are many other specific examples of positive wetland activities in which the Corps is involved.

Beneficial Uses of Dredged Material

To date, the Corps, as part of its navigation program, has participated in over 140 separate projects in 27 states involving wetlands protection or restoration using dredged material. The total amount of wetlands benefiting from these projects exceeds 13,000 acres. Specific examples which illustrate beneficial uses of dredged material are as follows. While these do not address coastal wetlands, the technology is applicable.

Pointe Mouillee, MI. An excellent example of the beneficial use of dredged material is the Pointe Mouillee project in Michigan on the western shore of Lake Erie. This facility was built to serve as a disposal site for dredged material and to protect and restore a 4,600 acre state wildlife management area. It was one of the first large-scale projects to combine the goal of cost effective placement of dredged material with natural resource development and management. It resulted in a return of wetland and upland plant species, increased use by fish and wildlife, and a wide acceptance of the area by local and regional citizens for recreational purposes.

Weaver Bottoms, MN. Weaver Bottoms, a part of the Upper Mississippi River National Wildlife Refuge Complex near Winona, MN, serves as another example of the beneficial uses of dredged material. Weaver Bottoms is a several thousand-acre wetland which is a migratory stopover for swans, geese and ducks using the Mississippi Flyway. It was restored with dredged sediments from the Mississippi River project. At this site eroded portions of the bottoms were plugged and nesting islands were created with dredged material. As a result, erosive action was slowed; sedimentation occurred; and an emergent wetland was reestablished.

Columbia River, OR. Another example in the Columbia River in Oregon involved disposal of sandy dredged material to create an intertidal marsh and adjacent sandspit. The disposal area is regularly used as part of required maintenance dredging activities. However, the marsh provides habitat for many commercially important fish species.

Galveston Bay, TX. In Galveston Bay an estuarine marsh was created on sandy dredged material from the Gulf Intracoastal Waterway. This site was subject to high wave energies but was protected by a small wave barrier which allowed free access to the marsh by fish and shellfish.

Other Sites. The Corps also used dredged material to create new wetlands along the Mississippi River and other streams such as the Altamaha River in Georgia and the James River in Virginia. Over 3,000 acres of productive marshland have been created by disposing dredged material in shallow open water areas. This replacement of shallow open water habitat results in the conversion of one type of fishery habitat (open water) for another (marsh). Research has indicated that created marshes often are more productive and beneficial to fish and wildlife resources than the converted open water bottom habitats. There are some instances, however, where such conversions are not more beneficial. Research is currently underway to assist in making these decisions. The Corps will continue to be sensitive to the concerns of open water habitat replacement for marsh creation and where deemed most beneficial, wetlands creation will continue.

Upper Mississippi Management Program

The Upper Mississippi River System Environmental Management Program (UMRS-EMP) is a specific regional environmental program that addresses, among other things, wetlands protection,

conservation, and restoration, and creation. This program is intended to ensure the coordinated use and the environmentally sustainable development of the Upper Mississippi River System (UMRS) in concert with the river's many functions and values to the public. The UMRS includes the navigable portions of the upper Mississippi River and Illinois Waterway.

The most pervasive environmental problem on the UMRS is the sedimentation of backwaters and side channels. The formation of the navigation pools in the 1930's created thousands of acres of marsh, wetlands, and lake-like conditions, but the dams also acted as sediment traps. Siltation is causing these valuable natural resource areas to lose some of their habitat value. All of the projects presently in the UMRS-EMP address this problem through dredging, often with the construction of flow control structures, and/or the construction of levees with facilities to control water levels.

Most habitat improvement projects are a combination of three basic types of habitat creation or restoration:

1. Dredging and flow control structures to restore side channel and backwater areas affected by accelerated sedimentation;
2. Levees and facilities to control water levels to provide feeding areas for migrating waterfowl; and
3. Island creation to reduce shoreline erosion and turbidity caused by wind driven waves.

At present, we have two completed habitat projects at Island 42, Minnesota, and at Monkey Chute, Missouri. We have scheduled the completion of three additional projects in FY 1989 at Blackhawk Park, Wisconsin; Guttenberg Waterfowl Ponds, Iowa; and Clarksville Refuge, Missouri. We are scheduled to complete general design on twelve additional projects in 1989. The President's FY 1990 budget request would provide funding to

complete a total of six projects and initiate construction on seventeen projects by the end of FY 1990.

The UMRS-EMP is progressing with close coordination among the Upper Mississippi River Basin Association, the five affected states and the Fish and Wildlife Service. We believe that the EMP could be a prototype for future efforts around the nation.

Freshwater Diversions

There are several coastal wetlands projects that I would like to describe briefly. The Corps of Engineers and the States of Louisiana and Mississippi are working to restore a small portion of the marsh flooding cycle in a way compatible with flood protection. The Corps of Engineers has studied three freshwater diversion projects to control saltwater intrusion in the Louisiana coastal area. These also will be addressed in the Louisiana Comprehensive Coastal Wetlands Study discussed earlier.

Construction of the Caernarvon Diversion Structure, 15 miles south of New Orleans, began last June. It will provide a large volume of fresh water to the Breton Sound marshes. As a result, 16,000 acres of marsh will be preserved over the next 50 years. Construction is scheduled for completion in November 1990.

The Corps is engaged in ongoing study efforts for two similar proposed projects. The Davis Pond Diversion Structure on the west bank of the Mississippi River and the Bonnet Carre' Diversion Structure on the east bank, both a little north of New Orleans, would preserve 83,000 acres and 11,000 acres of marsh and wooded wetlands, respectively. Both of these projects are in the preconstruction engineering and design stage.

Wetlands Research and Development

In addition to its project specific activities, the Corps has and continues to conduct a major wetlands research and development program. This program is carried out at the Waterways Experiment Station in Vicksburg, Mississippi. Wetlands related R&D was initiated over fifteen years ago under the Dredged Material Research Program. Demonstration wetlands were constructed and evaluated in a number of locations around the country, many of which are located in the Gulf of Mexico. This work led to a number of manuals and reports on marsh creation and the effects of marsh disposal of dredged material. In my view, the Corps is clearly a leader in environmental and wetlands engineering and technical expertise.

Mr. Chairman, we are ready and able to provide environmental engineering support to stem the loss of our valuable coastal wetlands. While engineering fixes alone are not the solution, they must play a major role if we are to protect existing wetlands from natural forces and unavoidable man-made causes; restore degraded wetlands; and, create new wetlands to make up for past and future losses that will surely result. We believe much of this technology is in place to accomplish this formidable task. The greatest challenge appears to be the long term financial commitment and public support this program will require. The losses did not take place over night, and they can not be replaced over night.

Mr. Chairman, that concludes my statement. I would be pleased to address any* questions you or other members of the committee may have.

Senator METZENBAUM. Mr. Chairman, I heard that last statement and he didn't say anything. I don't know what the position is of the Army. He said that he had responded to your questions previously, and also that he would put a statement in the record. But I don't know whether they support the legislation or oppose it.

Could we be informed?

Mr. PAGE. Yes, sir.

As far as we stand now, we support the legislation.

Senator METZENBAUM. You support it?

Mr. PAGE. Yes, sir.

Senator METZENBAUM. I appreciate that.

Thank you very much.

Mr. PAGE. Yes, sir.

The CHAIRMAN. We are happy to welcome Scott Sewell, who is Deputy Assistant Secretary for Land and Minerals Management of the Department of the Interior.

We are glad to have you back, Mr. Sewell.

STATEMENT OF S. SCOTT SEWELL, DEPUTY ASSISTANT SECRETARY, LAND AND MINERALS MANAGEMENT, DEPARTMENT OF THE INTERIOR

Mr. SEWELL. Senator, it is a pleasure in my first testimony to be doing it with my State Senator.

As far as the bill is concerned, I have submitted testimony on Friday that I would like to have entered into the record, and I would like to make a few general comments on the legislation and maybe a few specific aspects of it.

Senator METZENBAUM. Would you bring the microphone a little closer, please?

Mr. SEWELL. Yes, sir.

Senator METZENBAUM. Thank you.

Mr. SEWELL. As far as the general concept of the creation of funds, such as envisioned in this bill, there is a general desire on the part of the Administration to refrain from using off-budget mechanisms, such as these. Further, the question of oil spill liability trust funds is being addressed in an Administration-sponsored, comprehensive approach by S. 2325, which would consolidate various of the oil spill funds—the TAPS, the OCS Lands Act, and Clean Water Act, among others.

As for the approach of Senate Amendment No. 229 in regard to the Oil Pollution Compensation Fund, the bill fails to address one critical issue, I believe, and that is that tanker spills like those that occurred recently with the Exxon Valdez and the tanker spills in Rhode Island, Delaware and Texas would not be eligible for funding under the Offshore Oil Spill Pollution Fund. This is because the oil in each case was not from the OCS area. Title 43, section 1813, specifically defines that the oil must have originated from the OCS area.

The fact that oil spills over the last 20 years have been caused almost exclusively from the transportation of oil and not from offshore, domestic drilling suggests that we are kind of taxing the wrong folks here. We are administering fees and we are giving foreigners a possible competitive advantage at a time when the do-

mestic market in oil is particularly soft and rising oil imports may again threaten the energy security of the country.

As for wetlands loss, of course in Louisiana, I am acutely aware of the problem that we face, and it is a major national concern as well. In recognition of this, President Bush has established an interagency Wetlands Task Force to help achieve, as closely as we can, the President's goal of no-net-loss of wetlands.

A similar task force has been established within the Department of the Interior by Secretary Lujan to aid in that effort. As you pointed out, our State has about 40 percent of the total coastal wetlands in America, and we are in desperate trouble.

From a production standpoint, we have 3,600 producing platforms in the Gulf, and about 70 percent of all of the oil production in the OCS and about 90 percent of the natural gas is coming directly from the Gulf area. So it is definitely a Gulf situation.

Additional funding is going to be needed to aid wetlands conservation. But the Presidential and Departmental task forces have on wetlands not completed their work yet. I think it would be premature for us, as a Department, to take a formal position on the wetlands aspect of Senate Amendment No. 229.

With this in mind, though, I would like to add a few comments on the wetlands funding mechanism. Again, it is an off-budget device. The Department of the Interior's position has been that the 8(g) settlement funds already include moneys for wetlands recovery.

According to a 1988 study conducted by the Coastal Ecology Center for Wetlands Resources of Louisiana State University, only a small percentage of the losses of wetlands there are due directly to OCS activities. Therefore, there is a concern that all of the funding be provided from OCS activities as a sole source.

I have submitted comments on other sections of Senate Amendment No. 229 and I would like to address the cooperative development of common hydrocarbon areas.

This area of the bill is probably the most troublesome to the Administration. A number of the points were brought up in my prepared testimony. First, the position of the Administration is that the question of drainage was resolved in the 8(g) settlement payments of over \$1.5 billion to the coastal States. This bill being considered would provide new authority for States to prevent production in Federal waters, where they believe drainage may occur.

Now, to establish a common reservoir unit and determine drainage, a reservoir has to be common to both leases; there has to be production activity on both leases that is competitive; and the reservoir must be reasonably delineated.

Production wells have to be drilled on both leases to collect the subsurface well data that are necessary to evaluate the situation. This bill prevents the analysis that is needed from ever taking place by premature civil action.

Production in many areas could be stopped totally with the potential misuse of the intent of this bill, which would not serve the best interests of the Nation's energy security. All it would take to stop production in Federal wetlands would be for a stalemate to occur between the governor of a State and the Secretary of the Interior on the cooperative agreement. Then the courts would step in

and rule on the matter, probably based on the "rule of capture," and development, after some delays, would probably continue.

Authority already exists under both Federal and State rules whereby each sovereignty's lessee can protect its lessor from drainage by offset drilling or paying compensatory royalties. Voluntary cooperative agreements are already in place in about 50 areas off Louisiana and quite a number of others along the Gulf Coast.

This proposal could cause both potential State and Federal lessees to back off when drilling in areas where there is a high risk of being involved in litigation when a common pool may be discovered.

On a personal note, I have been sworn in for about three weeks now, and within two weeks of being sworn in, I visited with you in your office and with your staff briefly on this very issue. I have since visited the Regional OCS Office in New Orleans on the very subject of drainage and particularly the West Delta problem. I have had them draft preliminary reports for me for my review. Additional meetings are scheduled already to take place in Louisiana in the next month, and I can assure you that I am taking a good, long look at the situation. I have addressed the Administration's position, and I am currently reviewing the drainage question that you have referred to.

The CHAIRMAN. Thank you very much.

Mr. SEWELL. Thank you, sir.

[The statement of Mr. Sewell follows:]

Testimony of S. Scott Sewell
Deputy Assistant Secretary - Land and Minerals Management
Department of the Interior
Before the
Senate Committee on Energy and Natural Resources
July 24, 1989
on S. Amendment No. 229
"Gulf of Mexico Oil Spill Prevention and Response Act"

Mr. Chairman and Members of the Committee, thank you for the opportunity to testify on the Chairman's Amendment No. 229, the "Gulf of Mexico Oil Spill Prevention and Response Act." The Department of the Interior (DOI) has a strong interest in legislation which affects Outer Continental Shelf (OCS) oil and gas operations in the Gulf of Mexico. We administer and oversee the operations of more than 4,600 leases and 3,600 producing platforms currently in existence in the Gulf. This proposed legislation has several provisions which would affect not just the Gulf of Mexico but the entire OCS program. S. Amendment 229 covers six major areas: (1) an offshore Oil Pollution Compensation Fund; (2) a Wetlands Account; (3) an Oil Spill Research and Development Center; (4) requirements for OCS oil spill containment equipment drills and onsite inspections; (5) establishment of new authority for States to seek court injunctions to prevent production when they believe drainage of State resources will occur; and (6) oil spill contingency planning and vessel design standards for tankers and other vessels.

The Administration is not prepared to take a formal position on S. Amendment 229 at this time. However, we wish to discuss several concerns with the Amendment as proposed. Generally, we believe S. Amendment 229 could create potential disincentives to domestic oil and gas production. While it attempts to address wetlands protection, it would create an off-budget mechanism for funding wetlands protection or restoration projects subject only to yearly congressional approval, it would create unnecessary additional provisions for oil spill equipment inspection beyond the extensive program in place, and finally, most seriously, it would create an unworkable and unnecessary requirement for cooperative development of common hydrocarbon-bearing areas. I would now like to address specific sections and provisions of the bill.

Title I - Amendments to the Outer Continental Shelf Lands Act
Offshore Oil Pollution Compensation Fund

Currently, section 302 of the OCS Lands Act Amendments of 1978 [43 U.S.C. 18121] levies 3 cents per barrel of oil produced from the OCS for the Offshore Oil Pollution Compensation Fund. This fund was authorized to be maintained between \$100 and \$200 million at the discretion of the Secretary of Transportation. On April 1, 1989, the Secretary suspended the levy because the fund had surpassed \$140 million and no claims have ever been made against it for damages or cleanup.

Section 101 of this proposal raises the levy on oil to 10 cents per barrel and imposes a new fee of 2 cents per thousand cubic feet of gas. When analyzed on a value assessed basis and using relatively current prices, the proposed levy is

almost twice as high on gas as it is on oil: [OIL: \$0.10 levy/\$15.00 (bbl) = 0.67%] [GAS: \$0.02 levy/\$1.84 (mcf) = 1.09%]. It also raises the level at which the Oil Pollution Account is to be maintained. The imposition of additional fees on OCS oil and gas production could discourage some production in the Gulf of Mexico. I would also point out that the Administration has recently forwarded comprehensive oil spill liability legislation to the Congress (S.2325) which would consolidate the various oil spill liability trust funds. We believe this comprehensive approach is preferable to the regional approach proposed in S. Amendment 229.

Wetlands Protection, Restoration and Enhancement Account

We are aware that wetlands loss is of major concern in the State of Louisiana. The President has stated a goal of "no net loss" of wetlands. As a result of the Administration's increased concern regarding this issue, an interagency wetlands task force has been established under the auspices of the President's Domestic Policy Council to formulate and coordinate policy on wetlands protection. The wetlands task force is reviewing the existing executive order on wetlands protection, as well as existing laws and regulations, and will formulate an approach to the "no net loss" goal and coordinate Agency involvement. A national policy that ensures consistency among all Federal programs with regard to wetland conservation will be equally beneficial to States, local governments, and the private sector as protection of wetlands

requires the coordinated efforts of all these parties. 4

The Department fully supports the national goal as enunciated by President Bush. As a Nation and as a Government, we can achieve the balance that would be required by this policy and must do so in a coordinated fashion with a national strategy. Until the Task Force completes its review, it would be premature for the Administration to take a formal position on the wetlands protection aspects of S. Amendment 229.

With this in mind, I would like to offer some comments on the funding mechanism for wetlands protection created in this bill.

At least eight or nine significant causes of wetlands loss in the Gulf of Mexico have been identified. In addition to significant natural factors such as erosion, subsidence and sea level rise, wetlands loss can also be attributable to dredging, petroleum development, flood control, land use and agricultural practices. Therefore, we question the establishment of a wetlands account under the Offshore Oil Pollution Compensation Fund funded entirely by OCS operators.

As discussed earlier, the amendment proposes a fee of up to 10 cents per barrel of OCS production to be put into the Offshore Oil Pollution Compensation Fund. Any funds in excess of \$500 million in the fund would be transferred to the Wetlands Account.

It would presumably take 6 to 7 years before any fees from oil production would exceed the \$500 million limit. However, the entire fee of 2 cents per thousand cubic feet of OCS gas goes immediately into the Wetlands Account. Based on

1988 production of 4.3 billion net of OCS gas, this would amount to about \$86 million deposited annually into the Wetlands Account. The funding is structured as an off-budget device. Of course, as a general policy, the Administration is not supportive of funding mechanisms for new programs that circumvent the annual budget and appropriations process, by making receipts automatically available for specified purposes.

Oil Spill Research and Development Center

Section 102 establishes an Oil Spill Research and Development Center within the U.S. Coast Guard to conduct research into prevention, containment, removal, recovery, and cleanup of oil spills from vessels transporting oil. The Minerals Management Service (MMS) currently has the Federal Government's only formal oil spill response research program which includes projects identifying innovative response strategies. We also have research projects identifying innovative response strategies. We think it is appropriate that the Coast Guard also have such a program since its oil spill response mission is much broader than that of MMS. Coordination between such a center and the MMS should be established early to assure best use of funding and other resources for both entities and avoid duplication of research efforts. We defer to the Coast Guard on appropriate authorities regarding their work.

Inspection of Oil Spill Equipment

Current MMS activities on the OCS are aimed at assuring operational safety and preventing pollution, with major emphasis on preventing oil spills. To this end, MMS inspects all OCS oil and gas operations at least once each year, and

more often if necessary, for compliance with stringent safety and pollution prevention regulations. During the most recent 3-year period, MMS performed nearly 31,000 separate inspections of offshore platforms, drilling rigs, and other facilities. Each production or drilling inspection checked between 50 and 300 different safety and pollution prevention items, depending upon the type and size of the operation. This equated to inspecting more than 1,548,000 separate items.

Of the more than a million-and-half items inspected, at least 99.2 percent were in compliance. There were 11,398 incidents of noncompliance for which MMS issued citations. Most noncomplying items were corrected quickly, usually within a few days. In those relatively few instances where the violation posed "a threat of serious, irreparable, or immediate harm or damage to life (including fish and other aquatic life), property, and mineral deposit, or the marine, coastal, or human environment," MMS ordered suspension of operations on individual components, such as separators, compressors, or valves or suspension of drilling or production operations.

During this 3-year period, MMS ordered over 4,300 individual components shut down. In more serious cases, drilling operations were stopped 407 times, and production was halted on 230 occasions. Current estimates indicate that offshore drilling operations typically cost the operator between \$100,000 and \$150,000 per day. The costs associated with shutting down an offshore production platform depend in large part on the level of production.

There have been no instances where an operator has failed to correct a violation within the allotted time; hence, with two notable exceptions, no civil or criminal penalties have been sought. In 1988, Texaco was fined \$750,000 in a criminal case that involved Texaco's knowing failure to perform a required test of a blowout preventer and falsification of records. Earlier this year, Tenneco settled a civil suit for \$5 million after MMS detected unlawful flaring of natural gas from a Tenneco offshore platform. The settlement covers royalties and interest due the Government, as well as payments in lieu of further prosecution of administrative, civil, or criminal sanctions.

Section 104 proposes to amend the OCS Lands Act to require an onsite inspection no less than twice each year without advance notice to the operator of all equipment to prevent, ameliorate, or contain oil spillages. We interpret this requirement as including all pollution prevention equipment (blowout preventers, subsurface safety valves, pressure sensors, curbs, gutters, sump systems, etc.) in addition to oil spill containment and cleanup equipment. This would mean two additional inspections of each of the approximately 3,800 drilling and production facilities on the OCS or 7,600 additional inspections each year. While the resources and manpower in MMS are sufficient to accomplish currently mandated inspections, the imposition of this new requirement would require substantial additional new resources. This could require a minimum of \$10 million in additional funds and 80 additional employees. Within existing staff and financial

resources, the Secretary has already significantly stepped up the DOI inspection program.

Title VI - Cooperative Development of Common Hydrocarbon-bearing Areas

The provisions of proposed Title VI deal with common hydrocarbon-bearing areas. This provision is extremely troublesome. This proposal would create a significant possibility of substantial and serious delays in OCS production including existing producing fields. It is also unworkable and unnecessary.

The premise of this title is that fairness and cooperation between the State(s) and the MMS is not possible when there is a situation of potential drainage. There are many examples of cooperation between the States and MMS and involved lessees. Off Louisiana, for example, there are currently 40 active voluntary units, and there is one off Texas all of which provide for the allocation of production from common hydrocarbon areas in an equitable manner. (Voluntary unit agreements are established between operators and approved by the State(s) and Federal Government.) These have existed for a number of years. These 41 agreements involve production from 140 reservoirs. For example, in West Cameron Block 17 the Federal/State unit agreement with Louisiana involves 23 different sands. In addition, there have been extensive discussions conducted between Alabama and MMS to complete a unitization agreement in the Mobile Bay Area. This area is one of the largest gas finds in the lower 48 States and contains reservoirs common to Federal and State properties. These discussions are close to an agreement. In

order to minimize cost and the number of wells, there are a number of instances where we reached agreement so that the State lease was drilled from a Federal platform and vice versa. Offshore Texas, there are currently 13 wells which were drilled from the State side into Federal acreage on a cooperative basis. Off Louisiana, 16 wells have been drilled from the State side to the Federal side. Seven have been drilled from the Federal to State side. Offshore Alabama, as another example of cooperation, one well has been drilled from the Federal side to reach a State lease and thus minimize drilling and costs.

We offer the following comments on Title VI based on the assumption that the term "cooperative development" used in the amendment means "unitization." This assumption is based on the fact that the whole thrust of the West Delta 17/18 litigation was to unitize those lands. Attempts by the MMS to establish a royalty sharing agreement with the State of Louisiana were not successful. It became obvious that the State's intentions were to have a cooperative agreement that would have allocated production providing unearned revenues to its lessee and a volume of production upon which to assess severance tax in addition to royalties.

1. The terminology "common hydrocarbon-bearing reservoir" underlying the State and Federal boundary should be used in lieu of the proposed term "common hydrocarbon-bearing area" which could mean a geologic structure (or something even broader), only part of which may be common to both State and Federal lands and which would almost certainly lead to

extended new litigation. Those reservoirs within a geologic area not common to both sovereigns cannot contribute to drainage, and their development should not be controlled and regulated by both sovereigns.

The present requirements in the OCS for establishing a reservoir unit are that the reservoir must be (1) common, (2) competitive, and (3) reasonably delineated. For a reservoir to be competitive, it must have a completed producible well on each lease and the lessees must show the intent to produce them. Reservoir delineation and commonality are determined by subsurface well data. These requirements are to assure that a reservoir does extend into the adjacent lease, that both lessees intend to contribute to unitized production, and that a fair and equitable allocation of cost and revenues can be established.

According to the proposed amendment, whenever it appears that oil or gas is being drained, or about to be drained, either sovereign may institute civil action in order to prevent drainage. When a single well penetrates and is produced from a reservoir, the potential for the appearance of drainage exists. This is not an appropriate time to institute civil action or claim drainage for the following reasons:

- o The areal extent of the reservoir and its commonality to two or more leases have not been established.

- o Once commonality has been established, a fair allocation to those leases involved cannot be determined at this time without reasonable delineation.

c Without the above requirements for unitization being met, according to the proposal, civil action can be instituted with the drilling of one well which could result in the adjacent lessee/lessor sharing in the production (revenues) without financial risk. This would also be contrary to the long existing rule of capture which has prevailed over the years. Since oil and gas are migratory, it is not owned by any person or corporation until it is possessed. For one to gain possession, he must produce the hydrocarbons.

2. Eliminating the term "economic waste" from section 601(j)(1)(A)(I) would make the terminology of the proposal consistent with the present definition of conservation of natural resources. This would be the only place in the OCS Lands Act using the term economic waste. Judge Duhe of the Federal District Court, Western District of Louisiana, has ruled in his opinion on the initial West Delta Blocks 17/18 litigation that economic losses inherent in the cost of drilling wells to exploit a common pool are excluded from the definition of resource waste currently used in Federal regulations for OCS operations and is not a factor to be considered in making a determination for unitization of an area. Since our prime role is conservation, the prevention of waste, and the protection of correlative rights, economic waste does not and should not affect the decisionmaking process. The prevention of economic waste will be a result of unitization and should not be a reason to unitize.

3. All of the above discussion and our regulations indicate that drainage alone is not a reason to unitize. The

proposed amendment does not define drainage, yet makes it the sole reason for having a "cooperative development," with conservation being a by-product. This is basically a reversed priority.

The proposal also does not define what lands or vintage leases it would affect. Would only 8(g) leases be affected or all existing and future leases? The vague language used would indicate that of the 110 areas presently identified by the MMS in the Gulf of Mexico as having the potential for drainage either by State or Federal lessees, court action could be instituted immediately on each area. A determination of commonality, competitiveness, and actual drainage cannot be made until geological and engineering data become available and are shared by all parties and a study is made of the area to make such a determination. Therefore, 110 separate litigations could be instituted immediately. This would be expensive and would not necessarily serve the purpose of conservation. In some areas, production could also be stopped. This, too, does not serve the Nation.

Since drainage is not defined, it raises the question to the intent of such a cooperative agreement regarding effective dates. Would it apply to all production to depletion or just over certain periods of time? Would it be applied prospectively or retroactively on all existing leases or only certain leases, i.e., those subject to section 8(g)(2)?

In summary, authority already exists under both Federal and State rules whereby each sovereign's lessee can be required to protect its lessor from drainage by offset

drilling or paying compensatory royalties. Sufficient ¹³
authority also exists to enter into cooperative agreements
for the purposes mentioned in the proposal, except
economics, whereby the prevention of drainage will result.
We believe the proposal could well cause both potential State
and Federal lessees to shy away from leasing those areas
adjacent to the State/Federal boundary because of the high
risk of being involved in litigation upon discovery of
hydrocarbons, where the potential for drainage exists even by
the drilling of only one well, and further development of the
area would be hampered by litigation.

Finally, at this early stage of our review of this pro-
vision, we have not yet had the opportunity to review the
constitutional issues it may raise.

That concludes my prepared testimony. I will be happy
to respond to any questions the Members of the Committee
might have.

The CHAIRMAN. We are delighted to have from the State of Louisiana Hon. Raymond W. Stephens, Jr., who is our Secretary of Natural Resources.

We are glad to have you here before the Committee, Mr. Stephens. We have talked a number of times, but never before the Committee. I hope everyone will listen to you because you are a man who knows.

**STATEMENT OF RAYMOND W. STEPHENS, JR., SECRETARY,
DEPARTMENT OF NATURAL RESOURCES, STATE OF LOUISIANA**

Mr. STEPHENS. Thank you, Mr. Chairman and Members of the Committee.

With that introduction, I would like to add my own bit of information.

I am a petroleum geologist with 30 years experience in the oil and gas industry, and for 20 of those years, I also was a Professor of Geology at the University of New Orleans and taught petroleum geology.

I will confine my comments to Title VI, Cooperative Development of Common Hydrocarbon Bearing Areas.

Pursuant to the Outer Continental Shelf Lands Act and the Submerged Lands Act, the Federal and State Governments were given the ownership over discreet portions of the Outer Continental Shelf. To insure that proper oil and gas development practices are used on the OCS, Congress directed the Secretary of the Interior to prescribe rules for the prevention of waste, the conservation of natural resources for the OCS and the protection of correlative rights therein.

Likewise, I am directed by State Law to insure that the "natural resources of the state shall be protected, conserved and replenished." To insure cooperation between the sovereigns in the development of the OCS resources, Congress further directed the Secretary of the Interior in the enforcement of safety, environmental and conservation laws and regulations to cooperate with the affected states.

Over the years, a policy of cooperative development evolved between the Department of the Interior and Louisiana where common, Federal-State hydrocarbon bearing areas were encountered along the Federal-State OCS boundary.

One hundred forty conservation units have been formed since 1953, affecting hydrocarbon production from these common resource areas. The cooperative development, in those cases unitization, allowed for the full protection of the hydrocarbon resources, the environment and the correlative rights of the various parties involved.

Good conservation practices are not, however, limited to unitization, but include such activities as proper location of wells, the spacing of wells, the joint setting of production rates or allowables and the cooperative use of joint facilities.

In 1986, however, the Department of the Interior abruptly changed the policy of cooperative development on the Federal side of the Federal-State OCS boundary. It replaced the cooperative development policy with the outdated and discredited policy of the

unfettered "law of capture." It should be noted that the Department of the Interior replaced the cooperative development policy only in the area along the Federal-State OCS boundary, and continued to exercise good conservation practices on the Federal OCS beyond six miles from shore and in Federal leases on-shore.

Clearly, the unrestrained law of capture is unacceptable to Louisiana, as it is to virtually all states.

Louisiana immediately challenged the change of policy in Federal court. The court ruled that, under the Outer Continental Shelf Lands Act, the State could not force the Department of the Interior to enter into unitization agreements.

The court decision, however, left unresolved the critical policy question of how the Department of the Interior will follow the Congressional mandate to implement good conservation practices when common Federal-State hydrocarbon areas are encountered.

The issues involved in this policy determination are significant. Because most drainage to date has been from state leases along the Federal-State OCS boundary, the unrestrained law of capture may appear to be a good Federal policy. However, significant drainage has occurred and will occur in the future from the Federal leases.

The State of Louisiana does not favor drainage in either direction. It wants to end this unrestrained race to drain hydrocarbon bearing reservoirs regardless of the consequences.

The State is not asking for special treatment. It wants to implement, along the Federal-State OCS boundary, the good conservation practices that the Department of the Interior used there from 1953 to 1986 and continues to use in Federal areas elsewhere.

In conclusion, the State of Louisiana strongly supports the provision of Title VI as a means of insuring that good conservation practices are utilized when common reservoirs are encountered along the Federal-State boundary.

Only in that manner can both the Federal Government and State Government be sure that the hydrocarbon resources, the environment, and the correlative rights of the various parties are being properly protected.

Thank you for your consideration.

I have with me Mary Ellen Leeper and Kai Midbow of my staff. Mary Ellen Leeper is General Counsel for DNR and Kai Midbow is my Deputy Secretary.

We stand ready to answer questions the Committee may have.

[The statement of Mr. Stephens follows:]

TESTIMONY OF RAYMOND W. STEPHENS, JR., SECRETARY OF THE LOUISIANA
DEPARTMENT OF NATURAL RESOURCES BEFORE THE SENATE COMMITTEE ON
ENERGY AND NATURAL RESOURCES ON JULY 24, 1989.

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE ON ENERGY AND NATURAL RESOURCES, MY NAME IS RAYMOND W. STEPHENS, JR. AND I SERVE AS THE SECRETARY OF THE LOUISIANA DEPARTMENT OF NATURAL RESOURCES. I APPRECIATE THIS OPPORTUNITY TO TESTIFY ON SENATE AMENDMENT NUMBER 229, "THE GULF OF MEXICO OIL SPILL PREVENTION AND RESPONSE ACT". OTHERS WITH ME TODAY WILL ADDRESS THE OIL SPILL PREVENTION AND COASTAL WETLANDS PROVISIONS OF THE LEGISLATION, SO I WILL CONFINE MY COMMENTS TO THE PROVISIONS OF TITLE VI ENTITLED "COOPERATIVE DEVELOPMENT OF COMMON HYDROCARBON BEARING AREAS". THE STATE OF LOUISIANA STRONGLY SUPPORTS THE PROVISIONS OF TITLE VI.

PURSUANT TO THE OUTER CONTINENTAL SHELF LANDS ACT AND THE SUBMERGED LANDS ACT THE FEDERAL AND STATE GOVERNMENTS WERE GIVEN THE OWNERSHIP OVER DISCRETE PORTIONS OF THE OUTER CONTINENTAL SHELF (OCS). THIS INCLUDES THE OWNERSHIP AND RIGHT TO ADMINISTER, LEASE, DEVELOP AND USE THE OIL AND GAS RESOURCES OF ITS PORTION OF THE OCS. TO ENSURE THAT PROPER OIL AND GAS DEVELOPMENT PRACTICES ARE USED ON THE OCS, CONGRESS DIRECTED THE SECRETARY OF INTERIOR TO PRESCRIBE RULES "FOR THE PREVENTION OF WASTE AND CONSERVATION OF NATURAL RESOURCES OF THE OUTER CONTINENTAL SHELF, AND THE PROTECTION OF CORRELATIVE RIGHTS THEREIN". LIKEWISE, I AM DIRECTED BY STATE LAW TO ENSURE THAT THE "NATURAL RESOURCES OF THE

STATE...SHALL BE PROTECTED, CONSERVED AND REPLENISHED" AND THAT THE "WASTE OF OIL AND GAS...IS PROHIBITED". TO ENSURE COOPERATION BETWEEN THE SOVEREIGNS IN THE DEVELOPMENT OF THE OCS RESOURCES, CONGRESS FURTHER DIRECTED THE SECRETARY OF INTERIOR "IN THE ENFORCEMENT OF SAFETY, ENVIRONMENTAL AND CONSERVATION LAWS AND REGULATIONS...TO COOPERATE WITH THE...AFFECTED STATES".

OVER THE YEARS A POLICY OF COOPERATIVE DEVELOPMENT EVOLVED BETWEEN THE DEPARTMENT OF INTERIOR AND LOUISIANA WHENEVER COMMON FEDERAL-STATE HYDROCARBON BEARING AREAS WERE ENCOUNTERED ALONG THE FEDERAL-STATE OCS BOUNDARY. ACCORDING TO FEDERAL RECORDS, AT LEAST 140 CONSERVATION UNITS HAVE BEEN FORMED SINCE 1953 AFFECTING HYDROCARBON PRODUCTION FROM THESE COMMON RESOURCE AREAS. THE COOPERATIVE DEVELOPMENT, IN THOSE CASES UNITIZATION, ALLOWED FOR THE FULL PROTECTION OF THE HYDROCARBON RESOURCES, THE ENVIRONMENT AND THE CORRELATIVE RIGHTS OF THE VARIOUS PARTIES INVOLVED. GOOD CONSERVATION PRACTICES ARE NOT, HOWEVER, LIMITED TO UNITIZATION, BUT INCLUDE SUCH PRACTICES AS PROPER LOCATION OF WELLS, THE SPACING OF WELLS, THE JOINT SETTING OF PRODUCTION RATES OR ALLOWABLES AND THE COOPERATIVE USE OF JOINT FACILITIES.

IN 1986, HOWEVER, THE DEPARTMENT OF INTERIOR ABRUPTLY CHANGED THE POLICY OF COOPERATIVE DEVELOPMENT ON THE FEDERAL SIDE OF THE COMMON FEDERAL-STATE OCS BOUNDARY. IT REPLACED THE COOPERATIVE DEVELOPMENT POLICY WITH THE OUTDATED AND DISCREDITED POLICY OF THE UNFETTERED "LAW OF CAPTURE". IT SHOULD BE NOTED, THAT THE DEPARTMENT OF INTERIOR REPLACED

THE COOPERATIVE DEVELOPMENT POLICY ONLY IN THE AREA ALONG THE COMMON FEDERAL-STATE OCS BOUNDARY, AND CONTINUED TO EXERCISE GOOD CONSERVATION PRACTICES ON THE FEDERAL OCS BEYOND SIX MILES FROM SHORE AND IN FEDERAL AREAS ONSHORE.

THE UNFETTERED LAW OF CAPTURE REFERS TO THE PRINCIPLE THAT OIL AND GAS RESOURCES ARE FUGACIOUS AND ARE OWNED BY WHOMEVER REDUCES THEM TO POSSESSION. EACH LANDOWNER OR LESSEE IS ENTITLED TO TAKE AS MUCH OIL AND GAS AS HE CAN CAPTURE EVEN IF THE OIL AND GAS IS DRAINED FROM UNDER THE PROPERTY OF ANOTHER PERSON. TO PROTECT HIMSELF FROM DRAINAGE, THE OTHER PROPERTY OWNER IS FORCED TO DRILL ADDITIONAL UNNECESSARY WELLS. THE RESULT IS AN UNRESTRICTED RACE TO DRAIN THE OIL AND GAS RESERVOIRS REGARDLESS OF THE CONSEQUENCES. THE UNFETTERED LAW OF CAPTURE RESULTS IN THE SHAMEFUL WASTE OF OIL AND GAS RESOURCES, THE UNNECESSARY DUPLICATION OF MATERIAL AND EQUIPMENT, THE DRILLING OF MORE WELLS THAN ARE NECESSARY TO EFFICIENTLY DRAIN A RESERVOIR, THE LOSS OF RECOVERABLE HYDROCARBON RESERVES AND ENVIRONMENTAL, HEALTH AND SAFETY RISKS.

CLEARLY, THE UNFETTERED LAW OF CAPTURE IS UNACCEPTABLE TO LOUISIANA - AS IT IS TO VIRTUALLY ALL STATES. LOUISIANA IMMEDIATELY CHALLENGED THE CHANGE OF POLICY IN FEDERAL COURT. HOWEVER, THE FEDERAL COURT RULED THAT UNDER THE OUTER CONTINENTAL SHELF LANDS ACT THE STATES COULD NOT FORCE THE DEPARTMENT OF INTERIOR TO ENTER INTO UNITIZATION OR ROYALTY SHARING AGREEMENTS. THE COURT DECISION, HOWEVER, LEFT UNRESOLVED THE CRITICAL POLICY QUESTION CONCERNING WHAT GOOD CONSERVATION

PRACTICES WILL THE DEPARTMENT OF INTERIOR IMPLEMENT, AS MANDATED BY CONGRESS, WHEN COMMON FEDERAL-STATE HYDROCARBON AREAS ARE ENCOUNTERED ALONG THE FEDERAL-STATE OCS BOUNDARY.

THE ISSUES INVOLVED IN THIS POLICY DECISION ARE SIGNIFICANT. SINCE MOST DRAINAGE TO DATE HAS BEEN FROM STATE LEASES ALONG THE COMMON FEDERAL-STATE OCS BOUNDARY, THE UNFETTERED LAW OF CAPTURE MAY APPEAR TO BE A GOOD FEDERAL POLICY. HOWEVER, SIGNIFICANT DRAINAGE HAS OCCURRED, AND WILL OCCUR IN THE FUTURE, FROM THE FEDERAL LEASES. LIKEWISE, FOR THE REASONS DISCUSSED ABOVE, THE UNFETTERED LAW OF CAPTURE IS NOT A GOOD CONSERVATION PRACTICE. (SEE ATTACHMENT 1).

THE UNFETTERED LAW OF CAPTURE IS ALSO ENVIRONMENTALLY UNSAFE. THE DRILLING OF UNNECESSARY WELLS WILL STATISTICALLY INCREASE THE CHANCES OF A POSSIBLE BLOW-OUT OF A WELL RESULTING IN ENVIRONMENTAL POLLUTION, RISK OF INJURY OR DEATH. FOR EXAMPLE, IN WEST DELTA BLOCK 17 ALONG THE FEDERAL-STATE OCS BOUNDARY OF LOUISIANA, THE REFUSAL OF THE DEPARTMENT OF INTERIOR TO USE COOPERATIVE DEVELOPMENT FORCED THE STATE LESSEE TO DRILL TWO UNNECESSARY WELLS TO PREVENT DRAINAGE OF ITS LEASE BY THE FEDERAL LESSEE. BOTH OF THESE UNNECESSARY WELLS BLEW-OUT.

THE STATE OF LOUISIANA DOES NOT FAVOR DRAINAGE IN EITHER DIRECTION. IT WANTS TO END THIS UNRESTRAINED RACE TO DRAIN HYDROCARBON BEARING RESERVOIRS REGARDLESS OF THE CONSEQUENCES. THE STATE IS NOT ASKING FOR SPECIAL TREATMENT. IT WANTS TO IMPLEMENT ALONG THE COMMON FEDERAL-STATE OCS BOUNDARY THE GOOD CONSERVATION PRACTICES THAT THE DEPARTMENT OF INTERIOR

USED THERE FROM 1953 TO 1986, AND CONTINUES TO PRACTICE IN FEDERAL AREAS EVERYWHERE ELSE (SEE CLARK OIL PRODUCTION CO. V HODEL, 667 F. SUPP. 281 (E.D. LA. 1987)).

IN CONCLUSION, THE STATE OF LOUISIANA STRONGLY SUPPORTS THE PROVISIONS OF TITLE VI AS A MEANS OF ENSURING THAT GOOD CONSERVATION PRACTICES ARE UTILIZED WHEN COMMON HYDROCARBON BEARING AREAS ARE ENCOUNTERED ALONG THE COMMON FEDERAL-STATE OCS BOUNDARY. ONLY IN THIS MANNER CAN BOTH THE FEDERAL GOVERNMENT AND STATE GOVERNMENT BE SURE THAT THE HYDROCARBON RESOURCES, THE ENVIRONMENT AND THE CORRELATIVE RIGHTS OF THE VARIOUS PARTIES ARE BEING PROPERLY PROTECTED.

THANK YOU FOR YOUR CONSIDERATION. I WILL BE GLAD TO ANSWER ANY QUESTIONS THAT THE COMMITTEE MAY HAVE.

Attachment: I

DESCRIPTION OF SOME OF THE ILL EFFECTS OF FAILURE TO PRACTICE MODERN
CONSERVATION TECHNIQUES AT THE STATE-FEDERAL BOUNDARY

The "law of capture" refers to the principle that oil and gas resources are fugacious, and are owned only when reduced to possession. Each landowner or lessee is entitled to take as much oil or gas as he can even if it is derived from under his neighbor's property. To protect himself from drainage, his neighbor is forced to drill unnecessary wells. In the event that the "law of capture" is allowed to operate uncontrolled by prudent modern conservation practices, the following partial list of effects may be expected.

1. Drilling of Unnecessary Wells - In order to "capture" the oil and gas resources underlying the state or federal lands before such resources are drained by the opposite party, the respective lessees will be forced to drill more wells than are necessary to produce those reserves. Unnecessary wells directly lead to:
 - A. Increased costs to lessees, associated with the additional wells and facilities.
 - B. Decreased value, in terms of bonus, rental and royalties, to the federal and state governments. If lessees anticipate that extraordinary costs will be involved in the development of a lease, it would be expected that they will bid less for the lease initially.
 - C. Increased risk of environmental damage, because of additional unnecessary drilling and the requirement that duplicative surface facilities be installed on the state and federal leases. Every well involves the risk of a possible blowout when being drilled resulting in environmental pollution and a risk of injury and death. West Delta Block 17 illustrates this risk, since on at least two occasions wells which were being drilled in order to expedite recoveries and protect the leases from drainage blew out. These wells were the Seneca S.L. 10088 Well No. 4 and the Cashco S.L. 10187 Well No. 2. Both of these wells were unnecessary, had the West Delta Field been properly managed.
2. Abandonment of state conservation rules - If the state leases are being drained by the federal lessees, the state will be forced to release its lessees from complying with state conservation laws and the previously enforced state-federal agreement concerning operations along the boundary. This will lead to other adverse effects of the "rule of capture".

- A. Damage to reservoirs and lost recovery - Offset drilling to protect from drainage induces operators to drill wells in locations that fail to optimize total recovery of the oil and gas reserves. Most primary production from a field is the result of the lift provided by the pressure from the reservoir energy (e.g., dissolved gas drive, gas cap drive, or water drive). The drilling of unnecessary wells, or incorrectly spaced or located wells will dissipate this reservoir energy before ultimate recovery is achieved.

Operators may also be induced to prematurely abandon a deeper reservoir for a shallower one in which drainage is occurring in order to prevent the drainage. Normal prudent operations would dictate depletion of the deepest reservoirs first before completion of wells in shallower reservoirs. This avoids drilling unnecessary wells. Also, drilling through a shallow, depleted reservoir to access deeper production may lead to lost circulation of drilling mud and subsequent blowouts (as in West Delta) when a well penetrates the depleted sand where pressures are lowered. These difficulties may preclude drilling and production of deeper reserves, by either making drilling too risky or expensive.

- B. Loss of secondary or tertiary production - Primary production results in only about half or less of the reserves being recovered. Additional reserves may be recovered by the use of secondary and tertiary production methods. However, secondary and tertiary recovery requires that there be field-wide management so that the water or gas injection wells and the production wells be spaced in accordance with the best petroleum engineering practices to ensure that a proper "sweep" of the oil and gas resources occurs.

The CHAIRMAN. Thank you very much, Mr. Stephens. You are also accompanied by David Soileau.

Mr. STEPHENS. Yes.

The CHAIRMAN. Did you have a statement, Mr. Soileau?

Mr. SOILEAU. Yes, sir, Senator Johnston. I would like to make a few remarks.

The CHAIRMAN. Mr. Soileau is Technical Advisor of Coastal Issues to the Governor of Louisiana.

**STATEMENT OF DAVID M. SOILEAU, TECHNICAL COORDINATOR
FOR COASTAL ACTIVITIES, OFFICE OF THE GOVERNOR, STATE
OF LOUISIANA**

Mr. SOILEAU. Mr. Chairman, I have submitted some written testimony for the record. I would like to paraphrase from that and make a few oral comments.

I had anticipated beginning with a summary of the fish and wildlife related statistics, but your opening remarks sufficiently summarize that, so I think I will skip it, other than to say that the statistics that you did state were extremely accurate.

I will make one other mention regarding the rate of loss that we all recognize as catastrophic in Louisiana. Since we begin this hearing, we have already lost another two acres of wetlands in coastal Louisiana.

The causes of the wetlands loss in Louisiana and probably in all of the coast states of the Nation, are numerous. But undoubtedly man's activities are among the most significant.

Dredging and levying of rivers have had the long-term impact of cutting off the annual flow of sediment-rich waters into our coastal marshes, leading to their deterioration. This deterioration, however, has been accelerated by the construction of on-shore exploration canals and production facilities, canals dug to accommodate transmission pipelines, and the on-shore infrastructure associated with the exploration and production of oil and gas reserves on the Outer Continental Shelf of Louisiana.

The figures that I am going to quote are probably from the same study that Mr. Sewell quoted earlier. However, I do not interpret those to be insignificant.

During the period of 1955 to 1978, according to the study that was funded by the Minerals Management Service, published in January 1988, oil and gas related activities accounted for at least 30 percent of the 30,000 acre annual loss of wetlands in Louisiana. I do not view this as minor and insignificant.

To combat such long-term impacts, we need nothing short of the kind of program and funding that would be provided for in Amendment 229 to Senate Bill 406.

If enacted, that bill would provide the significant levels of Federal funding that will be needed to conserve, protect, and restore coastal wetlands in the State of Louisiana. Frankly, this level of funding is critical in view of the magnitude of the effort needed to bring the wetland loss problems in coastal Louisiana under control.

While on the subject of the bill, we request, in view of the new coastal initiative spawned under the administration of Governor Roemer, that bill sponsors seriously consider including a significant

role for the State in selecting and planning the wetlands restoration and enhancement projects to be implemented in Louisiana by the Federal inter-agency group.

Nearly a year ago, under a charge from Governor Roemer, cabinet-level individuals from State government agencies prepared a report identifying a number of measures to enhance and restore vegetated wetlands in coastal Louisiana. Although some of the recommendations in that report will require further study and evaluation, many could be implemented now if adequate funding were available.

In closing, let me say that Louisiana intends to do its share. Not only do we now have a report identifying measures that can be implemented almost immediately, but less than two weeks ago, the Louisiana legislature approved a bill, subsequently signed by Governor Roemer, creating an Executive Assistant to the Governor to deal with coastal activities and establishing a State Wetlands Conservation and Restoration Fund.

Moneys in this fund could accrue at the rate of \$25 million a year, depending on the level of mineral revenues to the State.

Our next effort will be to seek constitutional protection of that trust fund via a referendum of the voters of Louisiana on October 7 of this year.

In view of these considerations, we hope you will agree that large-scale Federal intervention is not only warranted but should be mandated.

In our view, Amendment 229 to Senate Bill 406 is an ideal vehicle to accomplish just that.

Thank you, Senator Johnston, for your invitation to be here. I also would be happy to try to answer any questions that the Members of the Committee would have.

[The statement of Mr. Soileau follows:]

STATEMENT OF MR. DAVID M. SOILEAU, TECHNICAL COORDINATOR FOR
COASTAL ACTIVITIES, OFFICE OF THE GOVERNOR, BATON ROUGE,
LOUISIANA, BEFORE THE SENATE COMMITTEE ON ENERGY AND
NATURAL RESOURCES REGARDING SENATE AMENDMENT NUMBER 229
TO SENATE BILL 406

JULY 24, 1989

Mr. Chairman, members of the Subcommittee, my name is David Soileau. I serve as Governor Buddy Roemer's Technical Coordinator for Coastal Activities. I appreciate the opportunity to appear before you today to address an issue of critical importance to our State and its citizens--that is, the fate of our coastal wetlands.

Louisiana contains almost 40 percent of the coastal wetlands in the continental United States. These wetlands support more than a quarter of the entire nation's fishery production and about 40 percent of the continental U.S. fur production. Louisiana wetlands also serve as vital resting and over-wintering areas for migratory waterfowl, providing necessary habitat for 70 percent of the waterfowl of the Mississippi flyway alone. Frankly, we believe that the fish and wildlife resources of Louisiana's coastal wetlands and their economic value are national in scope.

Nevertheless, it is within Louisiana's coastal wetlands that 80 percent of the national loss is occurring. Current rates of coastal wetland loss in Louisiana range from 40 to 50 square miles per year, or in the neighborhood of 30,000 acres a year--that's equivalent to a loss of 1 acre every 15 to 20 minutes.

The causes of Louisiana's wetlands loss are numerous but, undoubtedly, man's activities are among the most significant. Dredging and leveeing of rivers in upper parts of the Mississippi River Valley for navigation and flood control purposes forced increased runoff into Louisiana. This, of course, required the construction of levees and floodways in this State to alleviate flooding caused by the increased runoff. The long-term impact of such activities was to cut off the annual overflow of sediment-rich waters into our coastal marshes, leading to their deterioration. This deterioration has been accelerated by the construction of on-shore exploration canals and production facilities, canals dug to accommodate transmission pipelines, and the on-shore infrastructure associated with the exploration and production of oil and gas reserves on the Outer Continental Shelf of Louisiana.

According to a study funded by the Minerals Management Service (published in January 1988), OCS oil and gas related activities account for at least 8 to 18 percent of the total coastal wetland loss in Louisiana, and non-OCS oil and gas activities account for at least 22 to 42 percent of the total wetland loss. When combined these figures indicate that the impact of oil and gas exploration, production, and transmission in and through Louisiana's coastal wetlands causes from 20 percent to as much as 60 percent of the 30,000-acre annual loss of those wetlands.

To combat such long-term impacts, we need nothing short of the kind of program and funding that would be provided for in Amendment 229 to Senate Bill 406, which is the subject of this hearing. If

enacted, that bill would provide the significant levels of Federal funding that will be needed to conserve, protect, and restore coastal wetlands in the State of Louisiana. Frankly, this level of funding is critical in view of the magnitude of the effort needed to bring the wetland loss problems in coastal Louisiana under control.

While on the subject of the bill, we request, in view of the new coastal initiatives spawned under the administration of Governor Roemer, that the bill sponsors seriously consider including a significant role for the State in selecting and planning the wetlands restoration and enhancement projects to be implemented in Louisiana by the Federal interagency group.

Nearly a year ago, under a charge from Governor Roemer, cabinet-level individuals from State government agencies prepared a report identifying a number of measures to enhance and restore vegetated wetlands in coastal Louisiana. Although some of the recommendations in that report will require further study and evaluation, many could be implemented now, if adequate funding were available.

In closing, let me say that Louisiana intends to do it's share. Not only do we now have a report identifying measures that can be implemented almost immediately but, less than two weeks ago, the Louisiana Legislature approved a bill, subsequently signed by Governor Roemer, creating an Executive Assistant to the Governor to deal with coastal activities and establishing a Wetlands

Conservation and Restoration Fund. Monies in this Fund could accrue at the rate of \$25 million a year, depending on the level of mineral revenues to the State. Our next effort will be to seek constitutional protection of that Fund via a referendum of the voters of Louisiana on October 7th of this year.

In view of these considerations, we hope you will agree that large-scale Federal intervention is not only warranted but should be mandated. In our view, Amendment 229 to Senate Bill 406 is an ideal vehicle to accomplish just that.

THANK YOU

The CHAIRMAN. I thank you very much, Mr. Soileau. Let me say that your suggestion to include coordination with the State is an excellent one, and we can and should make that. I thought that was in there, frankly, but it is not. It should be added and we will do that.

Mr. Sewell, you are brand new on board, so you neither get credit nor blame for the positions of the administration on this. However, you have pointed out the problem with wetland loss, that it is, to use your words, a desperate situation.

Now, it has been a desperate situation in Louisiana, as I think you know, for some years, and we have been waiting like Evangeline under that oak now for many years and help has never come.

We have heard about task forces and all that. But don't you think it is time to act on this issue of wetland loss?

Mr. SEWELL. There is a time when you can act at the right time, possibly making the wrong moves, or not all the correct moves, and you can end up in the end having to go back and redo things.

The various task forces have been formed by the President and by Secretary Lujan in Interior, for the purpose of taking a comprehensive approach to the whole question of wetlands losses. I cannot remember this type of emphasis being placed by a previous administration.

The CHAIRMAN. I am delighted to see that.

Mr. SEWELL. I just think it is premature for us to act prior to findings by the task force.

The CHAIRMAN. Believe me, it is not premature. It may be faster than you want to go, but it is not premature. I can tell you that. I mean, we have lost hundreds of square miles, and to say it is premature to act on Louisiana coastal wetlands is the wrong word.

Mr. SEWELL. No, sir. Not premature to act on the wetlands; premature, possibly, to take this approach at this time.

The CHAIRMAN. Now, would you agree with me that it takes serious money to deal with this problem?

Mr. SEWELL. Absolutely.

The CHAIRMAN. I mean, you can't do this with just a few bucks.

Do you know how much money was in the President's budget request for coastal wetlands?

Mr. SEWELL. No, sir, I do not.

The CHAIRMAN. It's almost nothing. I think, as a Congressional add-on, as I recall, we had \$10 million for priority wetlands. We continued to have some study money, and we have three small projects. But in terms of new initiatives, it's almost nothing.

Let me ask you about the mechanism we have.

Granted, you don't like set-asides. But can you tell us, and give us your opinion of the mechanism if we had separate funding? Do you have an opinion about the mechanism we have here?

Mr. SEWELL. Do you mean where one account accrues and then overflows into the other?

The CHAIRMAN. Well, we have the Secretary of the Interior, in conjunction and in consultation with the Secretary of the Army acting through the Corps, and the EPA initiate a process to identify and prepare a list of high priority projects. We have a separate funding stream for the identification of the projects, which really is going to involve preliminary design.

Mr. SEWELL. Approximately \$10 million per year I think is the figure in the report.

The CHAIRMAN. That's right.

Then, separately, we have our high priority projects which they shall identify and which shall be funded from the Fund in the order of priority, unless the Congress changes the priority.

Now, is there anything unworkable about that or any change that you would suggest, other than the fact that it is premature and you don't like the source of funds?

Mr. SEWELL. I don't think we are debating the question of whether or not loss is occurring or whether or not it is a serious problem. I will debate, I think, the impact of OCS activities in my interpretation of the report.

The CHAIRMAN. Well, that is not the question. I heard you say that.

I'm talking about the mechanism. Have you studied the mechanism in the bill?

Mr. SEWELL. Yes, sir. I have.

The CHAIRMAN. Do you like that mechanism?

Mr. SEWELL. We have not had time to assess what the impact of the fee would be to the industry; specifically, we have some ideas of what might happen.

The CHAIRMAN. No. That is not the question.

We know you don't like the fee. We know you think it is premature. We know you think it should not be an OCS tax of two cents an mcf. I am talking about the mechanism by which the Secretary of the Interior is directed, in consultation with EPA and the Corps, to identify projects, funding that by \$10 million, identifying by map detailed descriptions of the projects, preparation of the list, et cetera.

Are you prepared to speak to that?

Mr. SEWELL. No, I am not.

Obviously, careful planning is needed in whatever we do, but we have not addressed that specific subject. No.

The CHAIRMAN. Well, I think you should address it because I can tell you that at least the Chairman of this Committee does not think this is premature, and I suspect that other Members of the Committee, and I hope the whole Congress, does not think it is premature. So we want to act on the legislation.

We would like to get your advice other than to say "No, we don't like the legislation." We would like for you to help us improve it because you are going to have to administer it if we pass it. And I suspect that the administration task force is going to have to say yea or nay. I mean, just to say: Well, we'll have a budget request next year—I mean, there is no money here. The President just had a new space initiative, which I heard Mr. Darman say was going to cost \$400 billion. I heard him yesterday on television. It's \$400 billion, and with no new taxes for that.

Now, we are providing a source of funding under this bill. So help us, if you will, put together a process.

Now, with respect to West Delta, you talked about the fact that there are ongoing proposals, I mean, ongoing cooperative agreements. Did you mean to state that there has not been a change in policy?

You heard Mr. Stephens talk about the change in policy in 1986.

Mr. SEWELL. That's correct.

It's the current policy of the Department of the Interior to encourage a voluntary unitization. There are certain circumstances that form themselves—

The CHAIRMAN. Except the government will not volunteer in some cases.

Mr. SEWELL. Well, they have, and in this particular case, it was just felt that it did not meet the criteria.

The CHAIRMAN. What were the criteria?

Mr. SEWELL. When there is a need to prevent waste of oil and gas, or to conserve natural resources, or to prevent unnecessary drilling.

The CHAIRMAN. Well, you heard Mr. Stephens say that two unnecessary wells were drilled in order to comply with the rule of capture, and, as a matter of fact, those two wells blew out.

Mr. SEWELL. As I said before, I have taken it upon myself to look into this. But in the case of West Delta 17 and 18, there was a situation where the two lessees, the Federal and the State lessee, could not agree on what a unit was or how it was. The Department of the Interior disagreed with the State over whether the drilling of those wells was unnecessary or not.

I think your office participated in about a year of negotiations, trying to work out something in terms of a voluntary agreement. In the end that was not done. A final policy issue, I believe about a year and a half ago, was issued, and that continues to be the Administration's position.

The CHAIRMAN. All right.

You know that Federal law required an assessment of the drainage issue, and pursuant to that Federal program, a report was filed indicating some \$29 million of drainage from State lands, and I believe that was \$12.3 million from the State and \$16.6 million from the State lessees.

Are you familiar with that report?

Mr. SEWELL. The Ryder-Scott Report, is that what you mean?

The CHAIRMAN. Yes.

Mr. SEWELL. Yes, sir.

The CHAIRMAN. I understand that you do not think it should have been unitized. Do you have any basis on which to disagree with the report of the fact finder?

Mr. SEWELL. When the report was made for the fact finder committee, the Secretary of the Interior was directed to review that information and make a judgment on the situation.

At that point, using the information in that report and taking into consideration, I believe, the 8(g) settlement and all the negotiations and the process involved there, the Secretary felt that the State had been compensated for that drainage and took the position, I believe it was in the fall of 1987, that satisfactory equity had been reached at that time.

The CHAIRMAN. I know as a legal or equitable matter that the Secretary disagrees. But you said that the State had been compensated for the drainage.

Now, the drainage means drainage from the State leases. Does the Secretary acknowledge that drainage took place in the amount

found by the fact finder and simply thinks that that should not be compensated, or does he disagree with the fact finder? If so, does he take the position there is no drainage, or what amount of drainage does he admit?

Mr. SEWELL. I'm not sure, Senator. I do not believe he is disputing the basic, underlying principles of the report.

I think also taken into account was the fact that there were several options that the State had to protect its interest in that case, and possibly the State did not take those actions. Among those, it could have required the lessee to drill additional wells in the sand that was being drained.

I think there were questions of geological interpretation that were involved.

The CHAIRMAN. But my question was does the Secretary disagree with the report, and the answer is no——

Mr. SEWELL. I don't think so, but I am not sure.

The CHAIRMAN [continuing]. But that for other reasons he disputes the claim.

The claim is under review at this time. Is that fair?

Mr. SEWELL. The Secretary has issued a statement of policy, and I believe it was in 1987 that the issue had been resolved.

All I said is that I have taken it upon myself since I have been here to take a much closer look at the situation and see where we stand.

The CHAIRMAN. That is something less than a review?

Mr. SEWELL. Yes, sir.

The CHAIRMAN. You just want to make a historical review of it.

Mr. SEWELL. Well, no.

The CHAIRMAN. In other words, there is no ongoing review?

Mr. SEWELL. I have some meetings scheduled in August with the OCS people in New Orleans and with our Solicitor's Office. We are looking at the issue, the very issues that you and I discussed in your office. We are taking a second look at it.

The Department's position has been plainly stated, I think, time and time again.

The CHAIRMAN. That's what I want to know. Are you taking a second look?

Mr. SEWELL. Yes, sir.

The CHAIRMAN. Good.

Now, Mr. Page, I am delighted to have you here today. You indicated before your willingness, more than willingness, your interest in solving this coastal erosion problem.

I know the Corps, which is directly under you, has shared that interest for a long time. I am delighted to hear that you like the thrust of this bill on dealing with it.

Do you think the mechanism we have created is a good one?

Mr. PAGE. Yes, sir.

I cannot address some of the issues that do not fall within our purview. But generally, yes, we are concerned with the loss of the wetlands. We strongly support what you want to do to preserve those wetlands.

We want to address the questions that you raised before, and those before you now, about how we identify no net loss; how we're studying the erosion situation presently in Louisiana, with its at-

tendant loss of that coastline; our working relationships with EPA, which we are presently establishing; and also our activities with the Coast Guard as they relate to oil spills. They will be the lead agency, of course, and we have been working closely with them and hope to continue to do so, Mr. Chairman.

The CHAIRMAN. We provide under this legislation that the Secretary of the Interior, working with you and the Corps and EPA, shall have an ongoing process for identification of these projects.

As you know, we have had extensive conversations with the Corps, the Chief of Engineers, and others on creating a mechanism. I think it is fair to say that their advice to us is that the identification of projects is more than complicated. It is a very involved system that involves, really, a preliminary design.

In other words, if you are going to identify a project, you have to go in and assess what the value of the land to be reclaimed is, what the mechanism is by which you would reclaim it, whether it is fresh water injection or the pumping of silt or sand or spoil, or cutting off a source of pollution or putting up a barrier for erosion.

A number of different things could be done.

Then you have to put a benefit-cost ratio on that because you don't want to spend \$100 million to reclaim something that has very little value either for fish, wildlife or for any other purpose.

So we have confected this mechanism as, hopefully, a practical means of identifying the projects while, at the same time, having the ongoing funding of the projects.

Do you believe that that mechanism will work?

Mr. PAGE. Yes, sir.

In fact, we have been developing, as you know, our own strategy to deal with wetlands losses. That strategy closely parallels, right now, your Senate Amendment 229.

The Corps is involved at this time in a study, which I am sure you know about quite well. It is the Louisiana Comprehensive Coastal Wetlands Study.

The CHAIRMAN. Yes, indeed.

Mr. PAGE. We feel that EPA should play a prominent role in this effort.

The CHAIRMAN. For EPA?

Mr. PAGE. Yes.

The CHAIRMAN. Yes. We provide for EPA to be one of the three members of the group.

Mr. PAGE. It is very important that there be a close working relationship with EPA.

Also, I would like to say, that when we speak of oil spills, we would defer that, of course, to the Coast Guard. We have been working with them, as you know, on every one of these spills. They are the lead agency regarding oil spills.

The CHAIRMAN. By the way, can you tell us when the feasibility portion of the Corps' "Louisiana Comprehensive Coastal Wetlands Study" will be completed?

Mr. PAGE. Let's see. We authorized them to go forward on that about two weeks ago, I believe.

Is that right?

[Pause.]

Mr. PAGE. It would then take about two and a half years to complete the feasibility study.

[The information follows:]

We are currently reviewing the reconnaissance report for this study. Once it is certified, the New Orleans District could initiate the study in October.

The CHAIRMAN. It would take about two and a half years?

Mr. PAGE. Yes, sir.

The CHAIRMAN. And is that funded?

Mr. PAGE. It is, out of our own Corps of Engineer funds.

The CHAIRMAN. Would it be safe to say that the Corps does not have the kind of money to do the kind of in-depth work that needs to be done, at least for preliminary design, identification of projects, and that sort of thing?

Mr. PAGE. We do not have funds for preliminary design. We do have the funds to complete the feasibility study.

The CHAIRMAN. Can you tell us what that will consist of?

Mr. PAGE. It consists of two phases: the reconnaissance study and the cost shared feasibility study.

[The information follows:]

The reconnaissance report has been completed. The report presents a blueprint for the feasibility study and recommends proceeding with the feasibility study. During the feasibility study we will prepare a plan of structural and nonstructural alternatives that appear to be the most effective and efficient means of dealing with the coastal wetlands loss problem. The feasibility study will be cost shared 50/50 with the State of Louisiana and could be initiated in October.

Now that cost shared feasibility study is to begin in October and that is funded. It is a 50/50 share.

The CHAIRMAN. A 50/50 share?

Mr. PAGE. Yes.

The CHAIRMAN. Have you identified what that cost is?

Mr. PAGE. Have we identified the total costs yet?

[Pause.]

Mr. PAGE. We are working on the cost now and we are looking at I think \$10 million.

I believe that is it.

[Information follows:]

The estimated total cost of the study is \$2.4 million.

The CHAIRMAN. Mr. Soileau, do you have the answer to that?

Mr. SOILEAU. It is \$2.4 million total: \$1.2 million State and \$1.2 million Corps of Engineers, match.

The CHAIRMAN. Well, this is what you would call a "very broad brush."

Mr. SOILEAU. Yes, sir.

The CHAIRMAN. This is not in the "get serious" area yet.

Mr. PAGE. Yes.

The CHAIRMAN. Mr. Soileau, you are familiar with this study. Tell me about it.

Mr. SOILEAU. Well, my figures are somewhat different from those of Mr. Page, and I have been involved in the reconnaissance phase of the study and, hopefully, will be the State representative in the feasibility study.

The purpose of the study, as I view it—and it potentially is a very important study—is to identify those projects and plans that

all Federal and State participants can agree have merit in restoring vegetative wetlands. The key part, and in my view the most important part, of the study is that it will be undertaken not through the traditional benefit cost analysis scenario. It will be based on a least cost analysis. In other words, how much good can we do for wetlands at the least cost.

I think the studies that we have undertaken with the Corps of Engineers over the last 10 to 15 years clearly indicate to us that there is virtually nothing we can do in coastal Louisiana, or probably anywhere in our coastal zone throughout the Continental United States that will meet up to the normal traditional benefit cost ratio analysis.

There are just not enough tangibles available for us to do a traditional benefit cost ratio and end up with something above parity.

So I think it is a consensus of the Corps of Engineers and other Federal agencies and the State participants that we need to do this kind of study.

The CHAIRMAN. Well, you see, we have had an ongoing study with the Fish and Wildlife Service, the Louisiana Coastal Erosion Study. I got that started through the Interior Committee. We just went through a markup today and appropriated another \$2.4 million for that. That is very good.

But I think people in Louisiana want and expect that. Here we have a problem that, to me, is hundreds of millions of dollars in scope, and we just dribble at it, with a million here and a million there. That is why I have proposed this legislation which will give some serious money, about \$90 million a year.

Now, if you had serious money, would you say that this reconnaissance study, what was it, \$1.2 million apiece, that that is enough?

Mr. SOILEAU. Probably not.

This was an attempt at trying to identify the four or five, perhaps even ten, large projects that we would like to see built in coastal Louisiana if we had the big Federal dollars to implement it, the hundreds of millions of dollars that it will take to divert a large-scale fresh water diversion project.

I think that the study we have begun to undertake with the Corps of Engineers is the first step of the kind of study scenario that is being provided for in your bill, and that is the real answer. There is no doubt about it.

I will be honest with you, Senator Johnston. We don't need the kind of detailed studies that we are accustomed to having done by the Corps of Engineers for the last 10 or 15 years. We have learned through those study processes pretty much what needs to be done.

We can identify the projects that need to be implemented. Certainly there is some additional planning, some additional advance design and specs that need to be put together, packaged together, so that the Congress will, in fact, know what it is paying for.

But we don't need to do the tremendous studies and reinventing of the wheel every five years, just to see planners continue to play in the sand. We need serious money to do advance planning and design and to get these projects built on the ground.

I will disagree with one of Mr. Page's observations earlier, that this is a two and a half year study. No it's not. It is a five year

study. It is a three year study of actual planning. It is going to take another year just for the Corps of Engineers to run it through its chain of command to get it approved by the Chief of Engineers before you guys in Congress ever see it.

So it is not a two and a half year study.

The CHAIRMAN. Now you're not telling us to wait five years before we do anything in the Congress, are you?

Mr. SOILEAU. Oh, I would hope not. I would sincerely hope that this bill could be moved forward quickly, and that we could take this money through the Department of the Interior, and with the Corps of Engineers and other Federal and State agencies, and begin defining some projects and going into advance design within the next couple of years, and bring a serious program back to you for some legitimate projects to be funded and put on the ground right away.

I will tell you this. I am rather excited to see that the Department of the Interior, for a change, will be given an opportunity as a lead or a chair agency to do some of this planning.

I think it is very appropriate in view of the fact that not only does the Department of Interior oversee OCS activities, but it is also important to remember that the Fish and Wildlife Service, one of the agencies of that Department, was one of the first Federal agencies to identify the real solution, or one of the real solutions, to wetland restoration in Louisiana almost 30 years ago. Those are the freshwater diversion projects which are just now beginning to implement in Louisiana.

So the Department of the Interior has been in the forefront of planning of coastal restoration projects in Louisiana, and I think it is very appropriate that they be identified as the chair agency in this bill.

The CHAIRMAN. Thank you.

Mr. Sewell.

Mr. SEWELL. Senator Johnston, I don't know if it would be appropriate, but I have with me today Bill Knapp. He is the Chief of the Endangered Habitat Conservation Division of the Fish and Wildlife Service. I think he is probably, after listening to the direction of your question, able to comment, I guess, on the mechanism that you are discussing, if you would like to hear from him.

The CHAIRMAN. Yes. That would be very helpful.

Mr. KNAPP. Senator, I could probably speak loud enough for you to hear for me.

The CHAIRMAN. Well, you probably ought to sit down at the witness table, so that people at the rest of the room can hear you as well.

Is that K-N-A-P-P-?

Mr. KNAPP. Yes, Senator, it is K-N-A-P-P.

You asked earlier the question about the adequacy of the \$10 million to allow us to move forward with studying various approaches to wetlands protection. I think that would be more than adequate to look at a variety of approaches. I think we would be looking at structural means, those things that would enhance the wetlands. But we would also be looking at other means, such as protecting wetlands and even managing wetlands to enhance their current capability.

I think if we occupy ourselves with just looking at structural techniques, whether they be affecting operational regimes or constructing something, I think we might be making a mistake.

I think the Department is prepared to look at other means along the lines of protection: managing lands we already have under our ownership; helping other people manage their lands.

The CHAIRMAN. There are almost no lands under Federal ownership and management in coastal Louisiana that I am aware of.

Mr. KNAPP. Yes, sir.

The Fish and Wildlife Service frequently provides technical assistance to a variety of agencies and individuals as to how to manage their lands.

The CHAIRMAN. Now are you talking about inland wetlands?

Mr. KNAPP. I am talking about inland as well as coastal, sir—the Corps of Engineers 404 permitting process, a variety of processes, where we have input and where we would recommend that there be means adopted to lessen the destruction of wetlands.

If we look at the wetlands ledger, we find out that we are losing 20 times more wetlands than we are creating on an annual basis. If we approach the no-net-loss question from only the enhancement perspective, only the creation of wetlands perspective, it takes an awful lot more horsepower, an awful lot more money to create wetlands than it does to protect wetlands, sir.

The CHAIRMAN. How about to preserve wetlands?

Mr. KNAPP. To preserve wetlands? It is far easier economically to preserve them than it is to go back and try to restore wetlands.

The CHAIRMAN. Can you have a no-net-loss policy? Does that make sense?

Mr. KNAPP. That is what the Department is currently looking at now.

I think you raised the question earlier of why are we going so slowly. I think the no-net-loss pace at which we have made progress has been considerable. We started out in January with first clarifying the question of the wetlands delineation. I think for the first time in January, we saw the Army Corps of Engineers, the Fish and Wildlife Service, the Soil Conservation Service, and EPA sit down and—

The CHAIRMAN. Well, let me ask you this basic question. Does the no-net-loss program include coastal Louisiana?

Mr. KNAPP. Yes, sir.

The CHAIRMAN. Is it possible to have a no net loss program for Louisiana?

Mr. KNAPP. It is possible when we define what the concept of no net loss is, sir. Yes, I think it is.

The CHAIRMAN. What else could it mean?

Mr. KNAPP. There is a lot of debate about it. I do not think there is a uniform consensus of opinion that no net loss means that we do not have any change in geography; that for each acre we modify, we create one. I think there are approaches that involve the values of wetlands, the contribution that a wetland makes, both biologically and, for example, recreationally, and in water pollution and water control.

This is part of the delay.

The technicians and practitioners are now trying to look at the functional question, the geographic dimension, and the management dimension, quite honestly, that is associated with what no net loss means.

The CHAIRMAN. Well, see if you can do it without spending any money.

Mr. KNAPP. Sir, we cannot do it without spending money. I will concede that to you.

The CHAIRMAN. Well, I will tell you that if we continue in the way we are going, there are a lot of well meaning people, and I am sure you are one of them, who would like to deal with the problem. But, you see, we have been dealing with this. We have been putting, roughly, \$2.4 million into a study with the Fish and Wildlife Service for some years now, and some progress has been made. But it is a vast problem.

But we will continue to do that for the next ten years. And you will come in 10 years from now and say, "We need to create this fund," and they'll say "No, it's premature, we still have this ongoing study and we have to study it some more."

Well, yes, we do have to study some more. But we have three ongoing projects there that I am sure you are familiar with which are underfunded right now, and those are just three relatively small projects, while we are losing 40 to 60 square miles a year.

Now, there can be something done about some of that 40, 50, 60 square miles. I happen to believe that you cannot save it all. If we had a billion dollars, I don't think you could save it all, unless you were willing to divert the Mississippi River with its flood action. Then you could save it. Of course, you might lose something else there.

Mr. KNAPP. Senator, I do not disagree. I think there are things that can be undertaken fairly quickly. I did not mean to create the impression that we would have to wait two years or five years to identify those. Those have been identified in some cases.

The CHAIRMAN. Have you looked at our mechanism in this bill?

Mr. KNAPP. Yes, sir.

The CHAIRMAN. Do you think it is workable?

I know, again, that the Department opposes the Fund and all that. But given that the money is available, assume that the money is available, is the mechanism workable?

Mr. KNAPP. I think the Department could work with the other Secretaries to identify projects, such as would be undertaken.

Yes.

The CHAIRMAN. Our definitions of projects and that sort of thing in the bill are workable?

Mr. KNAPP. It is within the broader thinking that has gone on about wetlands protection, wetlands enhancement, wetlands conservation. Yes.

The CHAIRMAN. Well, I wish you would take another look in light of the testimony today and just say if we were going to create this Fund—and I understand the position on the Fund, and I hope the Department would change its view between now and the time it comes up for markup on the question of the Fund. But help us draw the best bill we can, even though you may oppose it, so that

when you have to administer those provisions, they are workable provisions.

If you would do that and send it to us in letter form, we would appreciate it.

Thank you, Mr. Knapp.

Mr. KNAPP. Thank you, sir.

The CHAIRMAN. Admiral Lusk, we are still working, we are actively working in the Committee to change our approach, to put the Coast Guard in charge, as we said in our hearing the other day. We understand, of course, that you would have to have the money to have that done, the up-front money, and one of the things, another one of the things that we want to change here is to provide for more up-front money, rather than have it come in a little bit each year. I think we would have to have more up front.

For that purpose, is adequate oil spill response equipment in place now in the Gulf of Mexico?

Admiral LUSK. Certainly, when you add what is available in the private sector to what we can move in from our strike teams and what we now have there, you have a considerable amount. But the word "adequate" gives me a lot of trouble.

Certainly, we do not have available down there the wherewithal to cope with the real high spill, such as what we ran into in Valdez, sir.

The CHAIRMAN. Now I understand that the Coast Guard's Vessel Traffic Service, or VTS, system for New Orleans was closed down in March 1988.

Why was that?

Admiral LUSK. It was closed down because during that period of time, we were very, very budget short, and it was necessary. We simply could not balance the budget that year.

You might remember that we took a lot of extraordinary actions, including closing down units and reducing our routine patrols by some 55 percent. That resulted, sir, not only in closing many units, but in having many of our ships and our aircraft simply laying at piers and at airfields because we did not have the fuel to run them.

What we did was take all of the units in the Coast Guard and prioritize them relative to the ones that we thought were giving us the most bang for the dollar.

The CHAIRMAN. Well, I know about your budgetary problems. But this should be opened back up, shouldn't it?

Admiral LUSK. Sir, I like VTSs, Vessel Traffic Services. There were some very severe problems with the New Orleans one, simply because we had never been able to fund it properly. That system, while it had a lot of high potential, sir, we were never able to get the money to put in radars, or low light level TV.

In fact, that was the only system that I have ever seen or ever heard of in the world that ran totally without real time data. It was one where we had computers and we had things that looked like radar screens. But the fact was we were generating targets and moving targets without real time data coming from low light level TV or radars.

The CHAIRMAN. Well, it should be reopened, but with proper radar.

Admiral LUSK. We are doing a study right now to see which ports in the United States we would like to have reopened and with which priority.

But, if we do reopen VTS New Orleans, I certainly would laud what you just said, sir. We absolutely have to have a better system than was there before.

The CHAIRMAN. A recent MMS report indicates that collision avoidance systems may not be adequate in high density traffic areas.

Do you agree with that report?

Is that true of the Lower Mississippi River and the Gulf?

Admiral LUSK. Well, certainly the collision avoidance system might not be adequate. When we look at the Vessel Traffic Service system we had down there before, it was obviously inadequate.

But there would be a very great aid to safe navigation, not only there but in other ports, if we had a properly instrumented and properly equipped Vessel Traffic Service.

The CHAIRMAN. Are oil spill contingency plans currently in place for the Lower Mississippi River and the Gulf adequate?

Admiral LUSK. I would say that there are probably more in place than people realize, and more in place than are required by statute. But I think that there are holes.

We are doing an assessment of that right now. We are definitely limited in the authority that we have to require them, and particularly limited in the authority that we have to require the equipment that is necessary to make them operable.

The CHAIRMAN. Will this bill give you that authority?

Admiral LUSK. Certainly this bill will give us a lot of authority, sir.

The CHAIRMAN. I wish you would take a look at it and let us know to what extent you would need more authority than the bill gives. We want to design it so that you have everything you need.

Admiral LUSK. Yes, sir. We certainly will.

One thing I would plea: if there is any way of making a bill such as this one, which has so many good points, nationally applicable, it would help.

The CHAIRMAN. Well, I think we will certainly do that. We want to deal with the problems that we have jurisdiction over, and I think the chances are we will meld this or parts of this probably with a national plan. But in the process of developing this, I suspect, I hope, we will have good pieces that will fit into a national plan.

One of the things that I have learned in this and in the Alaskan hearings is that we need someone in charge, and no one was in charge. I mean, everyone was in charge and no one was in charge. That is clearly one of the things that needs to be done here, in addition to additional funding.

Admiral Lusk, as I look at the Mississippi River, you can sit in your hotel room and look at that traffic out there, I realize the currents, the winds, that looks like very tricky navigation to me and very high hazard, considering the density of the oil traffic and the hazardous chemicals that move up and down there.

Would you tell me how dangerous that is and, in light of that danger, whether it is adequate or whether we need to do more.

Admiral Lusk. I have been stationed down there twice. Of course, everything is relative.

I remember the first time I was there, between 1975 and 1980, traffic density was very, very high, sir. Every one of the industries was burgeoning.

We had many, many tankers going up and down the river, as well as virtually every other type of traffic.

I would say that was a very "hairy" time. The Vessel Traffic Service was just going in. It was not as good as we wanted it to be. There were a lot of collisions. There were a lot of accidents.

When I went back the second time, we had much less traffic, and certainly the amount of problems you have vary greatly with the density of traffic. Traffic density was down then.

As the recession is over and as the traffic increases, obviously we are going to get back to the same situation we were in before.

But the potential for accident is there. You have large, populated areas, and you have vessels carrying extremely hazardous materials.

The CHAIRMAN. Thank you very much, Admiral Lusk.

I want to thank all of our witnesses.

We will have some questions in writing and I do invite you to respond in writing to those questions that we have asked for a written response to.

We hope to have this legislation ready to go soon. I think all aspects of this problem need to be addressed and addressed this year. We hope to be able to do that.

Thank you very much, gentlemen. We appreciate your testimony.

Our next panel is composed of James P. Leape, Vice President of the Conservation Foundation of Washington, D.C.; Brooks Yeager, Vice President for Government Relations of the Audubon Society in Washington; and Thomas Wyman, Manager, Government and Public Affairs Division, of Chevron Shipping Company of San Francisco, on behalf of the American Petroleum Institute; and he is accompanied by John McMahon, General Attorney for Shell Oil Company, in New Orleans.

Gentlemen, welcome.

Let's begin with Mr. Leape.

STATEMENT OF JAMES P. LEAPE, VICE PRESIDENT, THE CONSERVATION FOUNDATION

Mr. LEAPE. Thank you, Mr. Chairman.

I am testifying here today on behalf of the Conservation Foundation. My name is James Leape and I am Vice President of that organization.

I want to focus my remarks principally on the recent work done by the National Wetlands Policy Forum.

The National Wetlands Policy Forum was convened by the Conservation Foundation at the invitation of the Environmental Protection Agency. It was composed of broad representation of the diverse interest groups who are concerned about wetlands policy. It was chaired by Governor Thomas Kean of New Jersey, and included two other governors, representatives of several major environ-

mental organizations, including the National Audubon Society, as well as agricultural, development, and oil interests.

That wetlands forum, working hard over the course of a year, reached consensus on a comprehensive program for a national wetlands policy, geared around the goal, on an interim basis, of no net loss, and, on a long-term basis, of a net gain in the Nation's wetlands base.

That consensus has had an extraordinary impact on the debate about wetlands policy in this country. The no net loss goal was endorsed by President Bush in his budget message to Congress, and has since been endorsed by the National Governors Association, among others.

The forum's reports must speak for themselves. The forum did not approve my testimony here. But in our view, that is, the view of the Conservation Foundation, the legislation proposed by this Committee and by this Chairman is strongly supported by several recommendations in the forum reports.

First, the forum recognized that preservation and restoration of wetlands is central to achieving the forum's goals of no net loss and eventual net gain.

First, the forum recognized that there would be continuing losses of wetlands, partly because of future permitted activities, but also because of natural losses and the continuing effects of past activities. And so, restoration and preservation are essential just to stay where we are, that is, to achieve no net loss.

Obviously they are even more important if we are to make any net gain.

The forum also recognized that to accomplish that, to accomplish no net loss and eventually a net gain, we had to identify new sources of funding for wetlands programs. The forum suggested that revenues be drawn from wetlands degrading activities.

I should note here that the forum did not specifically recommend new taxes on oil and gas leases.

In our view, that is, the view of the Conservation Foundation, this legislation represents an important first step toward the goal of no net loss.

The loss of coastal wetlands has reached crisis proportions, especially in Louisiana, and we need immediate action to stem those losses and to begin to regain some ground by restoring and replacing wetlands already gone.

We find this legislation to be a creative solution to the most difficult problem there, which is finding funding for that expensive undertaking.

In supporting this legislation, we urge that the Committee consider only a few modest concerns on our part. The first is that we believe funds are best allocated to the highest priority wetlands projects, without regard to the OCS revenues generated in the states where they occur.

Second, we urge that the legislation make clear that restoration projects include provision for maintenance, to insure the long-term survival of the ground gains.

Third, we hope the Committee will continue to support implementation of a comprehensive program to conserve the Nation's wetlands, of which this could eventually be a very important part,

and perhaps eventually provide the basis for State implementation of restoration and preservation programs.

We again commend the Committee for this important first step in getting to the no net loss goal which the forum articulated.

I thank you for this opportunity to testify and I am, of course, available to answer any questions.

[The statement of Mr. Leape follows:]

STATEMENT OF
JAMES P. LEAPE, VICE PRESIDENT
THE CONSERVATION FOUNDATION

Before the
Committee on Energy and Natural Resources
United States Senate
on
The Gulf of Mexico Oilspill Prevention and Response Act
July 24, 1989

Mr. Chairman and Members of the Committee:

I am James Leape, Vice President of The Conservation Foundation, a nonprofit environmental policy research and communications organization. Thank you for the opportunity to present the views of The Conservation Foundation on the Gulf of Mexico Oilspill Prevention and Response Act. I will limit my remarks today to comments on the wetlands provisions within the legislation.

The Conservation Foundation has a longstanding interest in wetlands conservation and related natural resources issues. Most recently, The Conservation Foundation convened, facilitated, and staffed the National Wetlands Policy Forum, which has produced broad consensus on an ambitious and comprehensive program to protect and manage the nation's wetlands. I will focus my remarks on the recommendations of the National Wetlands Policy

Forum pertinent to this legislation. I must emphasize that I cannot speak for the Forum -- the Forum's reports must speak for themselves. I can, however, direct the Committee's attention to Forum recommendations that are relevant to the Committee's consideration of this legislation, and explain how we at The Conservation Foundation think this legislation fits with the Forum's program.

The National Wetlands Policy Forum: Process and Product

First, permit me to provide you with some background on the National Wetlands Policy Forum and a brief description of its recommendations. The Forum began about two years ago, when Lee Thomas, then Administrator of the Environmental Protection Agency, approached The Conservation Foundation to initiate a dialogue on how the nation could better manage and protect its valuable wetlands resources. The agenda of the Forum was to develop sound, broadly supported recommendations for improving federal, state and local wetlands policy. The Conservation Foundation's role was to convene the Forum, facilitate the dialogue, and provide staff support.

Participating as members of the Forum were three governors - Thomas H. Kean of New Jersey as chairman, Carroll Campbell of South Carolina and Booth Gardner of Washington; the president of the Wyoming State Senate; the heads of state agencies from California and Alaska; a town supervisor from New York; four corporate CEO's -- two from development companies and one each

from the timber and petroleum industries; the heads of four environmental groups -- the National Audubon Society, National Wildlife Federation, Environmental Defense Fund, and Nature Conservancy; three farmers -- one each from Louisiana, Illinois and the prairie pothole region of Minnesota and the Dakotas; and two distinguished academics. Lee Thomas and the assistant secretaries of the four other federal agencies involved in wetlands protection and management -- the U.S. Army Corps of Engineers, the Department of the Interior, the Department of Agriculture, and the Department of Commerce National Oceanic and Atmospheric Administration -- participated as ex-officio members. These individuals, representing interests and organizations that have often been at odds over wetlands policy, worked together for a full year to reach consensus on a comprehensive set of recommendations. Last November, the Forum released its report, entitled "Protecting America's Wetlands: An Action Agenda," at a standing-room-only press conference here in Washington.

The Forum's final report includes over 100 recommendations for action by federal, state and local governments and the private sector. Perhaps the most important single recommendation of the Forum is that the nation should commit itself to a policy that assures "no overall net loss" of wetlands, and that seeks, in the long term, to increase the quality and quantity of the nation's wetlands resource base. Within months, the Forum's interim goal of "no overall net loss" had been embraced by President Bush, in his February 9 budget

message to Congress, and by unanimous vote of the National Governors' Association.

To achieve these goals, the Forum recommended a comprehensive program, including the following elements:

1. Planning for wetlands protection and management;
2. Increased incentives for the wise management and protection of wetlands in private ownership;
3. Modified wetlands regulatory programs to provide more effective protection while reducing unnecessary frustrations and delays imposed on wetlands owners;
4. Improved government leadership for the nation's wetlands protection efforts;
5. Increased and improved information about wetlands;
6. Expanded efforts to restore and create wetlands to enhance and increase the nation's wetlands inventory;
and
7. Funding and other resources adequate to implement an effective national wetlands protection and management program.

A summary of the Forum's recommendations is attached.

During the last year, the members of the Forum have been working actively to encourage the implementation of its recommendations. Last week, the Forum met and reached agreement on a concept paper for federal legislation implementing the Forum's recommendations. We hope to provide you with this paper within a few weeks.

Gulf of Mexico Oilspill Prevention and Response Act and the
Wetlands Forum's Recommendations

As I explained at the outset, the Forum did not specifically discuss or take a position on this or any other legislation. There are several Forum recommendations, however, that we at The Conservation Foundation believe are relevant to this legislation.

The Forum emphasized the importance of restoration and creation:

The United States cannot attain a goal of no net wetlands losses, much less the goal of increasing the wetlands base, without initiating active programs of wetlands restoration and creation. (Report, p. 61).

The Forum recognized that, even if we called an immediate halt to every current activity affecting wetlands, wetland losses would continue due to natural change and as a result of past human activities. To achieve the Forum's goal, and to allow for future public needs, the nation is going to have to restore some wetlands that have already been altered. The Forum recommended several initiatives in this area, including both public and cooperative public/private wetlands restoration programs.

The Forum recognized that one nationally important wetlands system that should be a focus of this restoration initiative is the Louisiana coast. As the Committee knows, this area is suffering extremely high wetlands losses from erosion and subsidence, largely as a result of the ongoing effects of past

government flood control and other water resource projects.

The Forum also recognized that implementation of its recommendations, including the restoration and creation initiatives, would require higher levels of public funding than have previously been devoted to wetlands conservation. The Forum recommended that "federal and state governments explore opportunities for increasing revenue from sources tied to activities that use, degrade, or destroy wetlands areas." (Report, p. 66). The Forum further recommended that "these funds be available for restoration and creation activities and nonregulatory incentives as well as for acquisition." (Report, p. 66 (emphasis added)). The Forum did not specifically recommend any increases in revenues collected from oil and gas leases.

Conservation Foundation Views

In the view of The Conservation Foundation, this proposed legislation -- providing increased revenues for wetlands restoration and protection -- is in keeping with these recommendations and with the spirit of the Forum. We commend you, Mr. Chairman, for proposing an important new program to stem the serious loss of our nation's coastal wetlands. The projects that would be funded by this proposal are clearly needed. The desperate situation in Louisiana, where we are losing 50 square miles of coastal wetlands a year, is a compelling case in point. Plainly, we will not begin to reverse those losses without a bold

new initiative for restoration and creation. In these times of tight budgetary constraints, one must be cautious in recommending new expenditures or new revenue measures. But this is a time when caution demands action -- we cannot afford to sit idly by while the ecologically and commercially valuable wetlands of our coasts continue to be washed out to sea. I commend the Committee for tackling this difficult issue of funding, and for dealing with it creatively.

While broadly supporting this initiative, we do have a few concerns about this legislation that we offer for your consideration. Our first concern is with the criteria for allocating funds collected under the bill. In Section 101(b), the bill provides that funds are to be allocated on the basis of a priority list of preservation and restoration projects, prepared by the Secretary of the Interior. That seemingly sensible mechanism, however, is subject to the proviso that funds "shall be available for projects within a State in proportion to the amount of production of oil and gas on the Outer Continental Shelf seaward from the submerged lands of such State." This proviso effectively denies funding to most coastal states. We urge that the bill be revised to allocate funds solely according to the first criterion -- that is, according to an objective assessment of the nation's most pressing needs for coastal wetlands restoration and creation.

Our second concern is that the bill provide better assurance that wetlands restored or created under the bill are maintained.

The Forum emphasized that all restoration projects "should incorporate an explicit component setting forth the maintenance, monitoring, and management activities that are to be carried out after the initial construction is completed to increase the prospects for the effort being successful." (Report, p. 63). We urge that maintenance and monitoring be required components of restoration projects funded under this legislation.

Finally, while applauding this first step forward in protection and restoration of our nation's valuable wetlands resources, let me emphasize the importance of continuing to work toward implementation of all elements of the wetlands conservation program recommended by the Forum -- planning, improved regulatory programs, and better private and public stewardship through nonregulatory approaches. The Forum emphasized that its recommendations formed an integrated package, and I hope that this Committee will support legislation to implement that package.

In particular, I should note that the Forum recommended that states play a greater role in wetlands protection and management. With appropriate resources and legal authority, states are in an ideal position to implement an integrated approach to wetlands conservation. As legislation is developed to promote and support state assumption of these responsibilities, the revenues generated under this bill could provide important incentives for state action, and the funding could properly be redirected to restoration and creation projects undertaken pursuant to approved state programs.

Thank you for the opportunity to provide you with our views. I would be happy to answer any questions you may have.



The Conservation Foundation

NATIONAL WETLANDS POLICY FORUM SUMMARY OF RECOMMENDATIONS

The National Wetlands Policy Forum, chaired by Governor Thomas H. Kean of New Jersey, was convened by The Conservation Foundation, at the request of former Environmental Protection Agency Administrator Lee Thomas, to address major policy concerns about how the nation should protect and manage its valuable wetlands resources. The Forum's recommendations represent a consensus which incorporates a wide range of interests and perspectives.

Protecting the Resource

A fundamental defect of the current wetlands programs is that they lack a clear, coherent goal. The Forum recommends that:

the nation establish a national wetlands protection policy to achieve no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base.

The Forum's goal does not imply wetlands conversions must cease entirely. Nevertheless, the rapid rate of loss needs to be checked. Reducing losses can be done through improving incentives for protection of private land; expanding and improving wetlands acquisition and preservation programs; reducing wetlands losses resulting from government programs; and instituting more effective and evenhanded regulatory programs.

Increased restoration can be achieved through implementing stronger mitigation requirements so that permitted conversions are fully offset by wetlands restoration or creation; requiring full compensation for government-related wetlands alterations; establishing a cooperative public-private initiative to search out opportunities for restoration; and implementing an Agricultural Wetlands Reserve Program to encourage restoration of converted wetlands.

Improving the Protection and Management Process

Many of the Forum's recommendations focus on making the full set of wetlands protection and management programs operate more efficiently and effectively than at present, providing better

protection with less delay, frustration, and cost. A major element in these reforms is increased emphasis on advance planning. The Forum recommends all states undertake the preparation of State Wetlands Conservation Plans to provide the basis for all subsequent acquisition, regulation, and other wetlands protection and management activities. Also, to be effective, wetlands programs require a sound information base and improved public understanding of their purpose and operation.

Improving regulatory programs can be achieved through delegating primary responsibility for all wetlands regulation to qualified states; providing financial and technical assistance; allowing partial delegation of responsibilities; allowing states to assume permitting authorities under Section 404 of the Clean Water Act over all wetlands; requiring federal activities be consistent with approved State Wetlands Conservation Plans; working toward adoption of a single regulatory definition of wetlands; considering regulating small conversions of less valuable wetlands through regional general permits; allocating more funding to state and federal regulatory agencies for wetlands permitting activities; and expanding monitoring and enforcement.

Implementing the Forum's Recommended Program

Many of our recommendations can be adopted immediately by federal and state agencies; we recommend they do so. We also recommend the President amend and reissue the existing Wetlands Executive Order to emphasize the importance of wetlands protection and to promote the adoption of the Forum's recommendations by all federal agencies.

Some of the Forum's recommendations will also require new federal legislation, primarily as amendments to existing federal statutes. Among the most important components are: establishing the recommended goal as national policy; encouraging delegation of federal wetlands regulatory responsibilities to qualified states; establishing such initiatives as Wetlands Preservation Trusts and an Agricultural Wetlands Reserve Program; and requiring the president to report to Congress every five years on the nation's success in achieving the national wetlands protection goal.

In addition, we recommend states begin taking the steps that will allow them to assume primary regulatory responsibility. Finally, the Forum realizes its full set of recommendations will require a significant increase in resources devoted to wetlands protection and management. Yet the costs of not taking these actions will also be very high.

As stewards of these resources, all of us in the public, private, and nonprofit sectors must work together to protect them for the use and benefit of future generations.

The CHAIRMAN. Thank you very much, Mr. Leape.

I just wanted to mention, as I look in the bill, that I think you say it should include money for preserving that which you have acquired. I think we identify, we define "project" to include, in addition to restoration, maintenance of the project. We will look at that and if it is not there, it should be there.

[Pause.]

The CHAIRMAN. Yes, to prepare a list of high priority projects to preserve, protect, enhance, restore or create. So it does involve preservation.

So preservation may involve initially building fresh water intake or whatever. But that would also include whatever it takes to keep it in that state.

Mr. LEAPE. That's fine.

My only concern is that it is clear one way or another that, having undertaken a project to restore a wetland, you do not then move on to the next project without having, at the same time, made sure that those gains are consolidated.

The CHAIRMAN. We will make that clear through the legislative history. That is a good comment.

Mr. Yeager, welcome back to the Committee.

**STATEMENT OF BROOKS B. YEAGER, VICE PRESIDENT,
GOVERNMENT RELATIONS, NATIONAL AUDUBON SOCIETY**

Mr. YEAGER. Thanks, Mr. Chairman. It is always a pleasure to come here before you.

On behalf of the Audubon Society, I would like to thank you for the opportunity to come and testify today.

The CHAIRMAN. By the way, do you like this better than the original ANWR bill?

[General laughter.]

Mr. YEAGER. Yes, Mr. Chairman. I think we can say without qualification that we like it better than the original one.

The CHAIRMAN. I thought you would.

Mr. YEAGER. In fact, we would like to place ourselves in support of substantial portions of it, particularly those that deal with establishing a funding mechanism for attempting to protect, preserve, and restore America's wetlands base.

I would only echo what Mr. Leape said in that regard, which is this is a problem that has become increasingly serious and is being recognized, I think by many policy makers, as being increasingly serious. Evidence of that certainly is in the administration's verbal commitment to a no net loss policy, and we hope that that will be followed with actions that are thoughtful in terms of providing funding mechanisms, such as your bill is.

The CHAIRMAN. Let me respond to your comment and Mr. Leape's about making this a nationwide policy.

First of all, coastal wetlands are fundamentally different from inland wetlands. Inland wetlands can be preserved and protected to a very large extent through zoning, through other actions of government which prevent people from doing things. I mean, most of those inland wetlands are going to stay there unless people develop them or build something inimical to them, as opposed to coastal

wetlands, which have to have the opposite. They have to have something done to them to preserve or protect them.

Louisiana's coastal wetlands are different from anywhere else, first because there are so many of them, and, secondly, because they are the source of 80 percent of the loss of coastal wetlands; because there has been all of that drilling down there, with the canals dredged, et cetera.

So it is a fundamentally different problem.

As far as saying that we identify that the money would be spent off the coast of where the gas is produced, that happens to comport with the percentage of loss.

Mr. YEAGER. I think we recognize that.

In our statement, Mr. Chairman, we comment at some length on the formula or the two formulas that you use or would use in this amendment for the disposition of the revenues in the wetlands account.

My only comment in response to your statement is that it is clear to us, or we believe that in any rational ranking of coastal wetlands projects for restoration or for preservation and protection, the exigency and the urgency of dealing with the Louisiana wetlands problem would loom very large.

So I think even if you move to a single formula, which I think there are meritorious reasons for doing, you would find that most of the money would end up coming to Louisiana because the wetlands problem there is severe.

There are a couple of reasons that we would recommend, however, doing that, moving to a single formula based on a ranking by merit.

The CHAIRMAN. Including inland wetlands?

Mr. YEAGER. No. Using only coastal wetlands. We accept for the moment that coastal wetlands have a different sort of problem associated with them than inland wetlands.

But we would argue that if a wetlands account of the kind you describe is to be the major—which it seems it will be, unless someone comes forward with something else—or the primary method of funding coastal wetlands preservation and protection and restoration projects, if you have a single ranking system, it will avoid ambiguity and fights about the allocation of resources. Also, it will cover the situation where you may have a wetlands problem that really does need attention, but it is off the Coast of North Carolina, for instance, or off the Coast of Delaware, where there is very little OCS activity.

Having two formulas in the bill raises the question, I think, of if you have a very high priority project but it is in a state with little OCS development, does that take precedence, or is that to be considered after a lower priority project in a state with lots of OCS production.

The CHAIRMAN. Well, you know, legislation does not conquer all the problems of the world. You rifle shot in. This deals with the most difficult one.

Frankly, we do not want to get put into the position of having the money go where the votes are. You know, there are an awful lot of Senators and Congressmen who might want to deal with Fire

Island, or whatever, and those are meritorious projects. But, you know, 60 square miles a year is a national crisis.

Louisiana wetlands are not recreational lands. Well, I guess some people do fish and hunt there. But their chief value to the Nation is as the breeding ground of the shrimp, the shellfish, the regular fish, the fur bearing animals, the birds. You know the list better than I. That is the nurturing ground for them, and it is a national resource, not just a Louisiana resource.

So, consequently, this bill sort of rifles into that problem, though not completely. I mean, it deals with wherever the OCS gas is produced.

But, as I say, it very closely tracks where the problem is.

Mr. YEAGER. Well, we agree that the urgency of that problem is something that ought to be dealt with in a primary fashion. We only suggest in our statement that there may be ways of determining a single ranking system that will achieve both the ends that you desire, that is, a consistent focus on the urgency of the problem in Louisiana, but also allow for the fact that there may be urgent projects in other areas that deserve attention that do not have as much OCS production.

But, in general, I think that we believe that a funding formula of the kind you describe is a good idea; that it is going to be difficult to find consistent amounts of money to deal with the wetlands problem without establishing accounts such as this. So we would be glad to work with you to see that these kinds of considerations get fit into any overall legislation that deals with the issue.

My written comments contain also some material on the oil spill sections of the bill. I think that I will forgo going over that now and would just say that we would look forward to working with you to integrate some of the best ideas in those provisions of the bill into the final legislation that is likely to be produced in this Congress.

[The statement of Mr. Yeager follows:]



National Audubon Society

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STATEMENT OF BROOKS B. YEAGER
VICE PRESIDENT FOR GOVERNMENT RELATIONS
CONCERNING
THE GULF OF MEXICO OILSPILL PREVENTION AND RESPONSE ACT,
AN AMENDMENT INTENDED TO BE PROPOSED TO S.406
BEFORE THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE
J. BENNETT JOHNSTON, CHAIRMAN
JULY 24, 1989

Mr. Chairman, Members of the Committee,

Thank you for the opportunity to testify before you today on the subject of the "Gulf of Mexico Oilspill Prevention and Response Act."

The National Audubon Society is one of America's oldest and largest conservation organizations, with over half a million members around the nation and in several foreign countries. We have been and continue to be actively involved in securing protection of our nation's wetlands resources. We manage over 250,000 acres of wetlands as part of our nationwide sanctuary system. We conduct scientific research on a variety of wetland-related issues. We have produced educational and television programs designed to increase public awareness of the value of wetlands, and have made preservation and restoration of wetlands one of our five high priority campaigns, bringing to bear on the issue the full range of our organizational and volunteer resources. We have worked alongside other conservation organizations to achieve legislative and administrative protection of wetlands, including work on the Clean Water Act and the 'swampbuster' provisions of the 1985 Farm Bill. We have also litigated under various statutes to enforce wetlands protection.

Most recently, Audubon participated in the development of the National Wetlands Policy Forum, an effort to which our President, Peter Berle, devoted considerable time and energy.

Audubon is also deeply concerned about the physical and environmental vulnerability of our national oil delivery system, and about the more profound vulnerability which arises from our continuing excessive dependence upon

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non-renewable fuels generally. These concerns have been amplified for us, as they have for others, by the Prince William Sound tragedy and the rash of serious oil spills which followed in the ensuing months.

We have addressed the first issue through our continuing work on marine oil spill legislation, and on issues related to the impacts of OCS and coastal development. In addition to legislative and policy efforts, this work has included efforts by our Science staff to assess the impacts of coastal oil activities on key ecosystems.

We have also grappled with the larger issue of America's energy options. Dr. Jan Beyea, of Audubon's Science staff, is well known for his work on national energy policy options. He has testified before this and other committees on energy issues, and is the author of numerous studies and articles on the topic, including the Audubon National Energy Plan (1984 and updates). In addition, Audubon co-sponsored a more topical report on national petroleum policy published last year (Wasted Energy; A Report on the Reagan Administration Energy Program), of which I was the author. More recently, I was invited to testify before the House Subcommittee on Economic Stabilization on the topic of "Oil, Environment, and National Security" (May 9, 1989). I would be glad to provide any of this material for the Committee's record.

Although I will touch on some of these broader issues later in my testimony, I want to focus my attention today on the aspects of the proposed amendment which establish a new and interesting funding mechanism for the protection and restoration of endangered coastal wetlands.

The recent flowering of policy initiatives to protect wetlands, and not least, the President's declaration of a "no net loss" policy for the nation, is clear evidence that the critical ecological importance of these lands has become clear to both policy makers and the general public. Wetlands are some of the most important living resource nurseries of the planet. They are areas of extremely high biological productivity, producing acre for acre five times the biomass of a cornfield. They provide spawning grounds and habitat for 90% of the annual U.S. commercial fish catch and support incredibly complex food chains. They are famous as "duck factories" because they provide critical habitat for migratory waterfowl. A third of our threatened or endangered species are dependent on wetlands for their survival.

Because wetlands provide essential habitat, and great hunting and fishing grounds, they are important recreational and economic assets to their local communities. But they have other, less obvious benefits as well. They help prevent soil erosion, and in so doing save millions of dollars per year. Wetlands act as recharge zones for underground aquifers, and provide a natural means of flood control and water purification by retaining water during periods of peak runoff and then releasing the water gradually, absorbing nutrients in the process. Wetlands remove heavy metals from water by trapping them in sediment, and reduce acidity by buffering acid mine drainage from active or abandoned mines.

Despite their enormous value, the nation is losing wetlands at an unacceptably high rate. Some states, such as California, now possess less than 10% of their originally functioning wetlands base. Most of the loss is due to agricultural, industrial, or municipal development of areas that are after

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all, flat, open, and often well-located. Nationally, more than half of our original base has already been lost. As you well know, Mr. Chairman, Louisiana is in the unique situation of losing 50 square miles of wetlands a year, due in large part to channelization and flood control activities in the Mississippi delta.

Clearly, Mr. Chairman, something has to be done to reverse this trend. That is why we at Audubon welcome initiatives, such as yours, to create new and innovative mechanisms for the protection of America's wetlands.

Title I of the amendment would establish a Wetlands Account which would be funded from a fee on OCS natural gas production, and would be used for the protection, restoration, and "enhancement" of coastal wetlands. With some reservations and clarifications which I will discuss, Audubon believes that such a funding mechanism could be a valuable tool in the nation's effort to protect and restore its wetlands base.

Among the many recommendations of the National Wetlands Policy Forum was that both the Federal and the individual state governments should "consider acquiring damaged wetlands that have potential for restoration or enhancement, as provided for in the U.S. Department of Interior's National Wetlands Priority Conservation Plan."

Even though it deals only with coastal wetlands, therefore, the proposed Wetlands Account would begin to meet a very real need -- for a reliable funding mechanism to assure that the new commitment to protect and restore our national wetlands base does not founder for lack of money.

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In order to assure that the money in the Wetlands Account is used to best effect, the criteria for ranking and choosing priority projects should be well articulated and unambiguous. The language in the proposed amendment governing the disposition of the Wetlands Account will need clarification in order to accomplish this goal.

As proposed, the disposition of the Wetlands Account would be governed by two separate sets of guidelines -- those under Sec. (b)(2)(A), which would define 'high priority' projects under a partially specified set of guidelines (Sec. (b)(3)(D)), and those under Sec. (b)(4), which provides that funds be available in proportion "to the amount of production of oil and gas on the Outer Continental Shelf seaward from the submerged lands of such state."

There are several difficulties here, although they are by no means insuperable. First, it is not clear how the two sets of guidelines would fit together in practice. If a project is considered 'high priority,' but is in a state where little OCS production occurs, would it be funded before or after a lower priority project in a state with greater production? Second, should we take account of the likelihood of successful restoration, or the urgency of the need for protection, in determining the priority of projects? And finally, if the Wetlands Account is to be the exclusive or even the primary method for funding coastal wetlands efforts, what are we to do about endangered coastal wetlands in states with no OCS production at all?

We would respectfully suggest that the best way to eliminate these uncertainties would be to rely on one set of more carefully defined criteria, that ranked available wetlands protection and restoration projects by their

relative importance, their urgency, and their prospects for success. Factors which should be considered in such a ranking would include, but not be limited to: the factors listed in paragraph (D) of the proposed amendment (general habitat value, potential for flood or pollution control, or potential danger from erosion, conversion, and degradation), value as habitat for endangered or threatened species, value as barriers to storm tides and erosion, value for groundwater recharge, and importance for contributing to the goal of 'no net loss.'

We believe, that in any such ranking system, the urgency and magnitude of the threat to Louisiana's coastal wetlands would loom very large. In that sense, even though there is some obvious justice in using the proceeds of OCS development activities to benefit the state whose wetlands problems are most closely tied to the consequences of oil and gas development, such an objective could be achieved in the context of a priority system which also accomodates the needs of coastal areas where the threats to wetlands arise from other causes.

We are also concerned that the money contributed to the Wetlands Account be used in a manner which helps to preserve the integrity, as well as the quantity, of the nation's coastal wetlands. In this context, the word "enhancement" worries us. Audubon believes that the goals stated in the proposed amendment are laudable, and that they would be best served by selecting projects designed to preserve, protect, restore, or create wetlands, with all the values associated with them. Too often in the past, 'enhancing' wetlands has meant creating duck ponds where a more balanced and complex, but perhaps less harvestable, system had existed previously.

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We would also like to make some brief comments on the sections of the proposed amendment dealing with oil spill prevention and compensation, and on the overall structure of the amendment.

The response by Congress to the issues raised by the recent rash of oil spills is encouraging. Dozens of bills relating to oil spill issues have already been drafted or introduced. In this context, although we commend you, Mr. Chairman, for your Gulf of Mexico Oil Spill Prevention and Response amendment, we should note our belief that the problem of our nation's inadequate system for dealing with marine oil spills can only be solved through a nationwide, comprehensive approach that includes prevention, response, natural resource damage assessment and restoration, and adequate compensation and liability provisions.

At present there are two national programmatic oil spill liability and compensation bills pending in the Senate - S.1066, the Administration's bill, introduced by Sen. Chafee (by request), and S.686, Senator Mitchell's bill - and one in the House, H.R.1465, Rep. Jones's bill. Of these three, the environmental community believes that Senator Mitchell's bill is by far the best, and that it would be an appropriate vehicle for many of the innovative ideas in your proposed amendment.

We should note the many valuable provisions of the oil spill section of your proposed amendment, including the declared non-preemption of state liability laws, requirements for improved tanker safety, establishment of a large national compensation fund, and requirements for contingency plans. The bill also establishes research and development centers to conduct analyses of

- various clean-up and response mechanisms and provides training in best available techniques, as well as mandating inspection of oil spill prevention and containment equipment. In addition, it requires submission of contingency plans by industry prior to conducting exploration, development, or production activities.

However, the National Audubon Society recommends a number of revisions to the generic oil spill provisions of the amendment. The amendment presently limits compensation from the Offshore Oil Pollution Compensation Fund to \$500 million, to be financed by a tax on the oil industry. The Exxon Valdez has shown that amount to be far too low. In discussions on other legislation, we have suggested doubling the fund to \$1 billion with a waiver of the cap should available compensation prove inadequate.

We also believe it would be a mistake to base all requirements for oil spill contingency planning on a "maximum probable spill" concept, as suggested in Sections 204 and 205 of the proposed amendment. If we have learned at all from the Exxon Valdez, the lesson should be one of the regulatory agencies' chronic underestimation of the potential damage from such incidents.

In addition to providing for research and development for containment, removal, and clean-up as stated in Sec. 102(2) of the amendment, we recommend that funds also be made available for wildlife rescue, rehabilitation, and restoration. Language should also be included to clarify natural resource damage coverage using damage assessment regulations to be developed by the National Oceanic and Atmospheric Administration. We would request that in addition to agency review of contingency plans, those plans be made available for public comment prior to approval.

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In Sec. 207(b)(5) of the amendment, it is implied that chemical dispersants should be included as part of the response strategy. Given the uncertainty of the effectiveness and environmental impacts of dispersants, we request that prior to inclusion in a contingency plan, the issue of dispersants be studied and that recommendations on their application be made at a later date.

Lastly, we believe that Congress should act more aggressively than is suggested in the amendment to require structural improvements in tanker design, as suggested in Senator Adams' Puget Sound Tanker Safety bill. As currently written, the amendment would require further study of this issue, but would not go far enough towards directing the necessary improvements.

As will be seen from this brief list of suggestions, it is our belief that a correct solution to the inadequacy of the nation's oil spill response and compensation system cannot be confined to the Gulf of Mexico. We also believe that, regardless of the precautions that we hope will be taken by this Congress to improve tanker safety, and oil spill response and compensation capability, oil and gas development and transport activities carry inherent risk, risk that is often incompatible with delicate ecosystems.

According to Coast Guard Commandant Paul A. Yost, who testified recently before the Senate Commerce Committee, each recent major spill has involved human error - a disturbing indication that, despite best intentions and careful planning, guarantees cannot be made to ensure that disasters like the one now gripping southern Alaska will not be repeated.

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Initiatives aimed at reducing the likelihood of similar spills are indeed laudable. But developing these mechanisms while ignoring the fundamental need for a national energy policy that includes conservation measures and alternative energy falls short of solving the very real problems associated with continued dependence upon oil. Only by charting a bold and aggressive effort to wean this country from its excessive addiction to oil can we really defend against future catastrophes and ultimately ensure not only protection of our natural resources but a strengthened national security.

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The CHAIRMAN. Well, we very much solicit your continued involvement with us as we further draft this.

We had a hearing last Friday on Alaska, as I discussed with Admiral Lusk. It became clear at that time that nobody is in charge, and we need to put someone in charge. Our current thinking is that the Coast Guard ought to be in charge.

So, as we reformulate that legislation, we very much solicit your comments and involvement in that.

Thank you very much.

Mr. Wyman, welcome to the Committee.

STATEMENT OF THOMAS WYMAN, MANAGER, GOVERNMENT AND PUBLIC AFFAIRS DIVISION, CHEVRON SHIPPING CO., ON BEHALF OF THE AMERICAN PETROLEUM INSTITUTE, ACCOMPANIED BY JOHN McMAHON, GENERAL ATTORNEY, SHELL OIL CO.

Mr. WYMAN. Thank you very much, Mr. Chairman.

I am here today representing API, the American Petroleum Institute. Of course, you know that it is an association of over 200 oil and gas companies involved in all aspects of the oil and gas industry.

With me today, Senator, is John McMahon, General Attorney for Shell Oil, who will assist in responding to questions involving offshore leasing and the wetlands issues.

I hardly need to say, Mr. Chairman, that the industry, our industry, is undergoing a difficult period. We are working to solve many of the same problems, however, that you have addressed in your Amendment 229.

There is no question that the Valdez incident has focused the attention of America, and it is up to the industry to take the initiative and to join government in trying to deal with a possible, God forbid, incident like this in the future.

A top level task force was recently commissioned by the API and it has come out with its recommendations. It involves a quarter of a billion dollar program.

Briefly, industry certainly does recognize the importance of preventing accidents. We recommend changes in tanker operations and in government regulations involving tankers.

Mr. Chairman, we agree with many of your recommendations and, in fact, your provisions of S. 229. In this respect, they parallel what industry has been talking about and, in fact, what it does plan to implement on its own.

The CHAIRMAN. May I interrupt you to ask this. Do you think it is a good idea to put the Coast Guard in charge?

Mr. WYMAN. The Coast Guard has the authority right now to move into any spill that is not being properly handled.

Now, the bulk of spills—there are many small spills, as you heard earlier, in this country annually. But those, for the most part, are being handled quite adequately and very effectively by industry.

The CHAIRMAN. Let me just say that on Friday, Exxon said that they would very much like to have the Coast Guard in charge.

Mr. WYMAN. If I were in their shoes, I might feel the same way.

The point I am making, Mr. Chairman, is that spills are being handled at the local level by cooperative oil spill industry organizations which respond immediately and can be very effective, in fact are effective, in dealing with the smaller spills. It is the larger spills where perhaps industry resources are not sufficient that we would have to look to the Coast Guard and work out a cooperative arrangement, in terms of dealing with the spill.

The CHAIRMAN. Well, the idea of putting the Coast Guard in charge is not necessarily to clean up the spill with their personnel and equipment, but, rather, to have somebody in charge of seeing that the equipment is in place, having control over personnel, being in command, so that if they want to call on the cooperative group, they can do so.

As it is now, of course they have the authority to do so. But in Alaska, for example, they said look, we knew we had the authority to take charge, but we had, I think they said, \$6 million, if I recall the amount, available. They said that wasn't even enough to get started.

Exxon wanted answers to a lot of things and the Coast Guard could not give them answers because the Coast Guard did not have enough personnel in place.

You know, the first rule of management is somebody has to be in charge. Either the industry ought to be in charge and have the authority and the responsibility of doing things, or the Coast Guard, or somebody else—the Secretary of Transportation.

Mr. WYMAN. In that respect, you are right. I think the Coast Guard should be in charge.

Now, they may delegate immediately to the local cooperative, to the local industry group—

The CHAIRMAN. And I expect they would.

Mr. WYMAN [continuing]. And in that sense it makes a lot of sense.

Similarly, there is always the problem of can the industry use dispersants in a particular spill situation.

We do need to have a lead organization within government to give us the green light on such questions as those.

So, in fact, what you are saying makes good sense.

But, as I visualize it, I think the industry generally views that the direct involvement of the Coast Guard with its own equipment and personnel would only be at a position or a time when industry itself was not able to respond effectively.

The CHAIRMAN. Well, its involvement and equipment need not be, as I say, to do it itself. But it would need more personnel to have a plan in operation, so that as soon as they know there is a big spill, they pull the crank and everything is automatic: people know where to go, who decides who they call in industry, and industry was responsible to them in formulating the plan, et cetera.

Mr. WYMAN. Your bill is good in this respect, Senator, in the fact that it requires facility-specific and vessel-specific contingency response plans. I think that is a good idea.

I think industry does endorse it. It is something that will improve the effectiveness of spill response in the future, particularly when it is coupled with an audit procedure and drilling, that is to say, training and drills. That does make sense.

As you perhaps know, too, Senator, the petroleum industry has established what it has called the Petroleum Industry Response Organization, or PIRO.

This is a network of five regional response centers located along the Nation's coast. Each center will be capable of handling a spill on the order of 200,000 barrels. In the event, again, of a spill exceeding, as we discussed, resources to handle by industry, industry recommends that the spill response be managed and, in fact, be administered by the Secretary of Transportation through the Coast Guard.

But this does not mean to say, Senator, that, even in the smallest spill, the Coast Guard should not be on hand and be consulted straight-away.

The industry is also committing between \$30 million and \$35 million in research funds to deal with questions that still exist regarding effective cleanup of oil spills. Industry is also associated with the Department of the Interior in a \$6 million joint oil spill research effort.

I would like to turn for just a moment, if I could, Senator, to the oil spill liability and compensation provisions of 229.

We certainly agree that liability and compensation for oil spills needs to be spelled out more effectively and better at the Federal level. For 15 years, the industry has been promoting, indeed advocating, a comprehensive Federal approach to providing the financial resources and response capabilities needed to deal immediately with any spill from any source and in any U.S. navigable waters.

We are cooperating in developing a single umbrella regime that would eliminate the present overlaps of OCS, of the TAPS Fund, the Louisiana Offshore Oil Port Fund, and do away with the existing patchwork.

As you well know, both the Senate and House are considering legislation which would establish just such an umbrella or comprehensive oil spill fund.

As now contemplated, moneys in the present OCS fund would be transferred to this new fund, which would then be built up and maintained through assessments on all U.S. receipts of crude oil and products.

Therefore, as we visualize it, maintenance of the OCS fund and broadening it to include a wetlands account would not really be consistent with the establishment of a single Federal oil spill fund.

Under these circumstances, we would feel it advisable to consider how your legislation would dovetail or be integrated with the legislation that seems to be moving ahead in both Houses of the Congress.

Again, we do, within API, support a singly broad-based fund to compensate claimants for oil spill cleanup costs and damages, rather than maintaining the present patchwork quilt of spill response funds.

The Senate Amendment 229 does address the Federal Outer Continental Shelf and at this point we cannot overstress the importance of continuing to find and develop the oil and natural gas resources of the Federal OCS. The recent tanker spills, in our view, should not be offered as justification for banning exploratory drilling off our coastline. Reduced offshore drilling and production,

which is almost always moved ashore by pipeline, will result in a growing dependence on tanker-borne shipments of foreign oil.

U.S. imports, as you well know, sir, are currently running about 8 million barrels a day. U.S. oil production has fallen by over 1 million barrels a day since 1985, and, of course, is still declining. A ban on offshore drilling in the Federal OCS will accelerate that decline.

Less oil will be produced at home, here in the United States, and more would have to be imported to meet the Nation's energy needs. So we want to put a plug in for let's keep the OCS open for exploration and development of new oil and gas resources.

Mr. Chairman, we just know within the industry that we have to do a better job in dealing with oil spills and we believe your program has elements which are going to contribute substantially to that objective.

Thank you, sir.

[The statement of Mr. Wyman follows:]

Testimony of

THOMAS WYMAN

MANAGER, GOVERNMENT AND PUBLIC AFFAIRS DIVISION,

CHEVRON SHIPPING COMPANY

on Behalf of the

AMERICAN PETROLEUM INSTITUTE

on

Gulf of Mexico Oil Spill Prevention and Response Act

Before the

SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

Washington, D.C.

July 24, 1989

MR. CHAIRMAN, MY NAME IS THOMAS WYMAN, MANAGER, GOVERNMENT AND PUBLIC AFFAIRS DIVISION, CHEVRON SHIPPING COMPANY. TODAY I AM REPRESENTING THE AMERICAN PETROLEUM INSTITUTE (API), A TRADE ASSOCIATION OF OVER 200 COMPANIES INVOLVED IN ALL ASPECTS OF THE OIL AND NATURAL GAS INDUSTRY, INCLUDING EXPLORATION, PRODUCTION, TRANSPORTATION, REFINING AND MARKETING. WE WELCOME THIS OPPORTUNITY TO COMMENT ON SENATE AMENDMENT 229, "THE GULF OF MEXICO OIL SPILL PREVENTION AND RESPONSE ACT OF 1989."

AS YOU KNOW, OUR INDUSTRY IS UNDERGOING A DIFFICULT PERIOD. WE ARE WORKING WITH ALL DUE DILIGENCE WITH BOTH PRIVATE AND PUBLIC SECTOR INITIATIVES TO OVERCOME SHORTCOMINGS IN OIL SPILL RESPONSE, CONTAINMENT, AND CLEAN-UP, AS WELL AS OIL SPILL LIABILITY AND COMPENSATION. WHILE OUR EFFORTS ARE IN MANY WAYS CONSISTENT WITH THE DIRECTION BEING TAKEN BY AMENDMENT 229, AS WELL AS OTHER BILLS INTRODUCED IN CONGRESS, THE PROBLEM OF OIL SPILLS, UNFORTUNATELY, IS A NATIONAL ONE AND DEMANDS A COMPREHENSIVE SOLUTION.

I THEREFORE WISH TO OUTLINE API'S APPROACH TO THE OIL SPILL PROBLEM TO DEMONSTRATE THE INDUSTRY'S RESOLVE TO PREVENT, RESPOND, AND COMPENSATE FOR, OIL SPILLS. WE BELIEVE THAT OUR PRESENT EFFORTS WILL ADDRESS THE CONCERNS MANIFESTED IN AMENDMENT 229, AS WELL AS OTHER BILLS PENDING IN CONGRESS.

OIL SPILL PREVENTION, RESPONSE, AND RESEARCH

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ON APRIL 7, 1989, RICHARD M. MORROW, CHAIRMAN OF THE BOARD OF API, AND CHAIRMAN OF AMOCO CORPORATION, ANNOUNCED THAT THE API BOARD OF DIRECTORS HAD ESTABLISHED A TOP-LEVEL TASK FORCE TO REVIEW INDUSTRY OPERATIONS IN THE AREAS OF OIL SPILL PREVENTION AND RESPONSE. ALLEN E. MURRAY, CHAIRMAN OF MOBIL CORPORATION, WAS NAMED CHAIRMAN OF THE TASK FORCE AND WAS ASKED TO REPORT A RECOMMENDED PROGRAM FOR ADDRESSING THE OIL SPILL PROBLEM WITHIN THREE MONTHS. THE TASK FORCE WAS COMPRISED OF THE CHIEF EXECUTIVES OR PRESIDENTS OF THE FOLLOWING COMPANIES: AMOCO CORPORATION, ARCO, BP AMERICA INC., CHEVRON CORPORATION, EXXON CORPORATION, MOBIL CORPORATION, SHELL OIL COMPANY, AND TEXACO INC.

API'S OIL SPILL TASK FORCE HAS NOW ISSUED ITS REPORT AND RECOMMENDED THAT SIGNIFICANT ACTION BE TAKEN BY THE INDUSTRY IN THREE MAJOR AREAS - PREVENTION OF SPILLS, RESPONSE TO SPILLS, AND SPILL-RELATED RESEARCH. A COPY OF THE TASK FORCE'S REPORT IS INCLUDED FOR THE RECORD.

1. PREVENTION: THE TASK FORCE RECOMMENDED SEVERAL CHANGES THAT WILL MAKE TANKER OPERATION SAFER AND REDUCE THE RISK OF TANKER SPILLS. SOME OF THE RECOMMENDED CHANGES ARE NEW INITIATIVES, WHILE OTHERS ARE IMPROVEMENTS OF EXISTING SAFEGUARDS. KEY RECOMMENDATIONS INCLUDE THE FOLLOWING:

VESSEL TRAFFIC SYSTEMS. THERE SHOULD BE MANDATORY PARTICIPATION IN U.S. COAST GUARD ADVISORY VESSEL TRAFFIC

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SYSTEMS. EXPANSION OF FEDERAL VESSEL TRAFFIC SYSTEMS INTO ADDITIONAL PORT AND HARBOR AREAS MAY BE JUSTIFIED BY TRAFFIC DENSITY OR NAVIGATIONAL HAZARDS.

PILOTAGE. FEDERAL LEGISLATION SHOULD BE ENACTED TO ESTABLISH HIGHER QUALIFICATIONS AND IMPROVED ADMINISTRATIVE STANDARDS FOR ALL STATE PILOTS IN U.S. WATERS.

TUG ASSISTANCE. WHERE EXTRAORDINARY NAVIGATIONAL HAZARDS ARE DEEMED TO EXIST BY THE U.S. COAST GUARD, VESSELS SHOULD BE REQUIRED TO HAVE: (I) TUG ASSISTANCE, OR (II) TWIN SCREWS, OR (III) BOW THRUSTERS OR (IV) OTHER SUITABLE EQUIPMENT ENABLING ENHANCED INDEPENDENT MANEUVERING.

DRUGS AND ALCOHOL. U.S. COAST GUARD AUTHORITY SHOULD BE EXPANDED TO ALLOW FOR DRUG AND ALCOHOL TESTING AS A PART OF OFFICER LICENSING PROCEDURES. COMPANY POLICIES SHOULD BE ESTABLISHED TO DETERMINE SUBSTANCE ABUSE AND TO ENCOURAGE TREATMENT.

VESSEL CREW COMPLEMENT. INDUSTRY SHOULD CONTINUE TO SUPPORT THE U.S. COAST GUARD ROLE IN SETTING MANNING STANDARDS.

LICENSING, CERTIFICATION AND TRAINING OF MARINE PERSONNEL. THE INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING AND CERTIFICATION OF WATCHKEEPERS (STCW) SHOULD BE

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RATIFIED BY THE U.S. GOVERNMENT. IN ADDITION, IMPROVEMENTS ARE NEEDED IN U.S. COAST GUARD TRAINING REQUIREMENTS FOR CARGO HANDLING AND BRIDGE MANAGEMENT.

AUTOMATIC PILOT. ALARM SYSTEMS FOR AUTOMATIC PILOTS SHOULD BE RETROFITTED ON ALL TANKERS.

SHIPBOARD OIL SPILL RESPONSE CAPABILITY. SHIP SPECIFIC OIL SPILL PREVENTION AND CONTROL CONTINGENCY PLANS SHOULD BE REQUIRED, BUT PRESENTLY EXISTING SHIPBOARD OIL SPILL RESPONSE EQUIPMENT IS NOT EFFECTIVE AND WOULD PRESENT SAFETY HAZARDS IN ITS DEPLOYMENT. RESEARCH IS PROPOSED TO INVESTIGATE FEASIBLE AND SAFE TECHNIQUES FOR ONBOARD RESPONSE.

VESSEL CONFIGURATION. THE MERITS OF FULL APPLICATION OF BALLAST SIDES, REDUCED TANK SIZE AND DOUBLE BOTTOM CONSTRUCTION SHOULD BE CAREFULLY STUDIED BY THE NATIONAL ACADEMY OF SCIENCES (OR ANOTHER INDEPENDENT BODY) WITH INDUSTRY INVOLVEMENT.

VESSEL SIZE. LIMITING THE SIZE OF VESSELS AT UNITED STATES PORTS WILL NOT ENHANCE ENVIRONMENTAL SAFETY BECAUSE OF THE ADVERSE IMPACT DOWNSIZING WOULD HAVE ON TANKER TRAFFIC.

2. RESPONSE: THE INDUSTRY IS FUNDING A PETROLEUM INDUSTRY

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RESPONSE ORGANIZATION (PIRO) TO CONSIST OF A HEADQUARTERS GROUP AND FIVE REGIONAL RESPONSE CENTERS.

THE DETAILS OF THE PROPOSAL WILL BE FURTHER REFINED BY PIRO, BUT THE PLAN IS TO LOCATE THE HEADQUARTERS IN WASHINGTON, D.C., TO COORDINATE ITS ACTIVITIES WITH THE NATIONAL RESPONSE TEAM; MAINTAIN AN OIL SPILL RELATED DATA BANK; PARTICIPATE IN OIL SPILL RELATED RESEARCH; AND PROVIDE TRAINING AND AUDITING GUIDANCE TO REGIONAL OFFICES. MOST IMPORTANTLY, THE PIRO HEADQUARTERS STAFF WOULD COORDINATE A PIRO MULTI-REGION RESPONSE.

THE REGIONAL RESPONSE CENTERS WOULD PROVISIONALLY BE LOCATED IN THE NEW YORK TRI-STATE AREA, NORFOLK, NEW ORLEANS, LONG BEACH AND SEATTLE. REGIONAL RESPONSE CENTERS WOULD COORDINATE THEIR ACTIVITIES WITH THE FEDERAL GOVERNMENT'S REGIONAL RESPONSE TEAMS, AUDIT AND PROVIDE TRAINING TO LOCAL COOPERATIVES AND INDUSTRY FACILITIES, AND RESPOND TO SPILLS BEYOND LOCAL CAPABILITY. EACH CENTER WOULD BE MANNED AROUND THE CLOCK WITH DEDICATED, TRAINED PERSONNEL AND EQUIPPED WITH PROPERLY MAINTAINED CONTAINMENT, MECHANICAL RECOVERY, DISPERSAL, AND SHORELINE CLEAN-UP EQUIPMENT. EACH CENTER WOULD BE SIZED TO HAVE A 30,000 TON (216,000 BARRELS) SPILL RESPONSE CAPABILITY.

IT IS ESTIMATED THAT THE ANNUAL COST OF THE PIRO STRUCTURE WILL BE \$30 MILLION TO \$35 MILLION. THIS INCLUDES A TEN-YEAR AMORTIZATION FACTOR FOR UP FRONT CAPITAL COSTS FOR EQUIPPING THE FIVE REGIONAL RESPONSE CENTERS AND PROVIDING EQUIPMENT AND

COMPUTERS FOR THE HEADQUARTERS. THE UP-FRONT CAPITAL COST WOULD BE IN THE RANGE OF \$70 MILLION TO \$100 MILLION.

THE CAPITAL COST AND ANNUAL OPERATING COSTS WILL BE FUNDED BY INDUSTRY ALONG LINES SIMILAR TO THE CARGO OWNERS' CRISTAL ARRANGEMENT. THIS WOULD ENTAIL A CHARGE TO INDUSTRY MEMBERS BASED ON CRUDE AND HEAVY FUEL OIL CARRIED BY SEA AND RECEIVED BY INDUSTRY MEMBERS AT U.S. FACILITIES. THERE IS NO PERFECT ALLOCATION SYSTEM BUT THIS ONE IS RELATIVELY SIMPLE IN CONCEPT, HAS WORKED WELL, AND PROVIDES A LOGICAL FIT WITH THE PROBLEM AT HAND.

THE TASK FORCE ALSO RECOMMENDED THAT THE SECRETARY OF TRANSPORTATION MANAGE MAJOR SPILLS. THE SECRETARY HAS A LEGAL RESPONSIBILITY TO SEE THAT SPILLS ARE PROMPTLY AND ADEQUATELY DEALT WITH AND, THROUGH THE COAST GUARD, MAINTAINS AN ORGANIZATION TO FULFILL THAT RESPONSIBILITY, WITH SUPPORT VESSELS AND AIRCRAFT READILY AVAILABLE. THROUGH ITS ROLE ON THE NATIONAL RESPONSE TEAM AND ITS INVOLVEMENT IN REGIONAL RESPONSE TEAMS, THE COAST GUARD IS WELL POSITIONED TO PROVIDE A CONSISTENT NATIONWIDE APPROACH TO SPILL MANAGEMENT AND THE SECRETARY IS BETTER POSITIONED THAN INDUSTRY TO RESOLVE THE DIVERSE INTERESTS OF FEDERAL, STATE, AND LOCAL AGENCIES WHICH MUST BE COORDINATED TO ALLOW QUICK AND DECISIVE SPILL MANAGEMENT. THUS THE CONCEPT IS THAT PIRO WOULD PROVIDE EQUIPMENT AND SKILLED, DEDICATED PEOPLE TO RESPOND TO MAJOR SPILLS UNDER THE LEADERSHIP OF THE SECRETARY OF TRANSPORTATION.

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3. RESEARCH: THE INDUSTRY WILL FUND AN OVERALL PROGRAM OF \$30 MILLION TO \$35 MILLION OVER FIVE YEARS. A PRELIMINARY ASSESSMENT OF THE RESEARCH AND DEVELOPMENT OPPORTUNITIES RELATED TO OIL SPILLS IDENTIFIED SPAN THE SPECTRUM FROM SCIENCE (SUCH AS BETTER UNDERSTANDING OF THE CHEMISTRY AND BIOLOGICAL EFFECTS OF SPILLED OIL ON THE ENVIRONMENT) TO OPERATIONS (SUCH AS USE OF CONTAINMENT BOOMS IN HIGH SEA STATES). THE THRUST OF THE PROGRAM PROPOSED IS TO INITIATE WORK FIRST IN THOSE AREAS WHERE THE ASSESSMENT SUGGESTS THE GREATEST POTENTIAL BENEFITS.

SINCE THE BULK OF THE PROPOSED R&D PROGRAMS HAVE OPERATIONAL OBJECTIVES, THEY WILL BE MANAGED BY THE PETROLEUM INDUSTRY RESPONSE ORGANIZATION (PIRO). SOME FURTHER DISCUSSION AMONG PIRO, API AND THE U.S. DEPARTMENT OF THE INTERIOR WILL LIKELY BE NEEDED TO FINE TUNE THE R&D MANAGEMENT RESPONSIBILITIES TO AVOID DUPLICATION, GAPS OR INEFFICIENCIES.

OIL SPILL LIABILITY AND COMPENSATION

THE PETROLEUM INDUSTRY SUPPORTS STRONG LEGISLATION TO REDUCE THE ECONOMIC IMPACT OF OIL SPILLS. FOR 15 YEARS, API HAS VIGOROUSLY ADVOCATED A COMPREHENSIVE APPROACH PROVIDING THE FINANCIAL RESOURCES AND RESPONSE CAPABILITIES NEEDED TO DEAL IMMEDIATELY WITH ANY OIL SPILL FROM ANY SOURCE IN ANY U.S. NAVIGABLE WATER. WE HAVE REPEATEDLY EXPRESSED TO CONGRESS OUR SUPPORT FOR COMPREHENSIVE FEDERAL LEGISLATION COVERING OIL SPILL LIABILITY AND COMPENSATION.

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WE WANT TO ASSURE YOU THAT API STANDS READY TO PROVIDE ALL THE ASSISTANCE WE CAN TO ACHIEVE THIS OBJECTIVE AND TO ESTABLISH A SINGLE FEDERAL REGIME THAT WILL ELIMINATE THE OVERLAPS, CONFLICTS AND DEFICIENCIES OF EXISTING OIL SPILL COMPENSATION AND LIABILITY ARRANGEMENTS. WE BELIEVE THAT SOUND LEGISLATION CAN AND SHOULD BE ENACTED THIS YEAR.

THE FUNDAMENTAL PREMISE OF OIL SPILL COMPENSATION AND LIABILITY ARRANGEMENTS SHOULD BE THAT ALL LEGITIMATE CLAIMS MUST BE PAID, AND ALL CLAIMANTS WHO HAVE INCURRED ACTUAL LOSSES MUST BE COMPENSATED TO THE FULL EXTENT OF THOSE LOSSES. THEREFORE, API BELIEVES COMPREHENSIVE FEDERAL OIL SPILL LIABILITY AND COMPENSATION LEGISLATION SHOULD INCORPORATE FOUR FUNDAMENTAL PRINCIPLES:

FIRST, THE SPILLER SHOULD BE "ON THE FRONT LINE," RESPONSIBLE FOR REMOVAL COSTS AND DAMAGES DIRECTLY RESULTING FROM THE SPILL, UP TO THE APPLICABLE LIABILITY LIMIT.

SECOND, ALL OIL SPILL REMOVAL COSTS, ECONOMIC LOSSES DIRECTLY RESULTING FROM THE DISCHARGE, AND ACTUAL COSTS INCURRED TO RESTORE OR REPLACE ENVIRONMENTAL LOSSES, SHOULD BE COMPENSATED.

THIRD, TO SUPPLEMENT THE LIABILITY OF THE SPILLER, COMPANIES THAT HANDLE OIL SHOULD CONTRIBUTE TO A REASONABLY SIZED FUND TO HELP MEET THE COST OF REMOVAL AND COMPENSATION FOR DIRECT DAMAGE.

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FOURTH, THE COMPREHENSIVE FEDERAL REGIME SHOULD BE THE ONLY LIABILITY SYSTEM, SHOULD OIL BE DISCHARGED INTO THE MARINE ENVIRONMENT.

API SUPPORTS COMPREHENSIVE OIL-SPILL LEGISLATION WHICH WILL BRING UNDER A SINGLE UMBRELLA ALL ASPECTS OF OIL-SPILL LIABILITY AND COMPENSATION TO ENSURE THAT ALL LEGITIMATE CLAIMS ARE PAID, AND ALL CLAIMANTS WHO HAVE INCURRED ACTUAL LOSSES ARE COMPENSATED TO THE FULL EXTENT OF THOSE LOSSES. SUCH LEGISLATION IS LONG OVERDUE.

OFFSHORE OIL AND NATURAL GAS DEVELOPMENT

AS AMENDMENT 229 ALSO ADDRESSES THE OUTER CONTINENTAL SHELF (OCS), API WISHES TO STRESS THE CONTINUED IMPORTANCE OF FINDING AND DEVELOPING THE OIL AND NATURAL GAS RESOURCES THERE.

THE MASSIVE ALASKA OIL SPILL AND THE MUCH SMALLER SPILLS IN LATE JUNE HAVE DEMONSTRATED THE HAZARDS POSED BY WATERBOURNE TRANSPORTATION OF OIL. BUT THEY DO NOT PROVIDE ANY LOGICAL REASON TO FURTHER BAN EXPLORATION FOR OIL ON THE FEDERAL OCS.

NEVERTHELESS, THE HOUSE OF REPRESENTATIVES HAS VOTED TO BAN EXPLORATION FOR OIL IN MUCH OF THE NATION'S COASTAL AREAS FOR A YEAR -- PLACING OFF-LIMITS TO EXPLORATION AND DEVELOPMENT SOME OF THE BEST PROSPECTS FOR MAJOR NEW OFFSHORE OIL AND GAS DISCOVERIES. THAT EXTREMELY HARMFUL ACTION ASSUMES A CONNECTION

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BETWEEN TANKER SPILLS AND OFFSHORE DRILLING THAT DOES NOT IN FACT EXIST. IF THE CONGRESS CONTINUES WITH THIS COURSE OF ACTION, IT WILL ACTUALLY WORSEN THE PROBLEM IT SEEKS TO SOLVE.

OFFSHORE OIL IS ALMOST ALWAYS MOVED ASHORE BY PIPELINES, NOT TANKERS, WHILE MOST IMPORTED OIL IS SHIPPED BY TANKER (EXCEPT FOR CANADIAN OIL WHICH COMES BY PIPELINE). U.S. IMPORTS ARE CURRENTLY RUNNING ALMOST 8 MILLION BARRELS A DAY. U.S. OIL PRODUCTION HAS FALLEN BY OVER A MILLION BARRELS A DAY SINCE 1985. A BAN ON OFFSHORE DRILLING ON THE FEDERAL OCS WILL ACCELERATE THAT DECLINE. LESS OIL WILL BE PRODUCED AT HOME AND MORE WILL HAVE TO BE IMPORTED TO MEET THE NATION'S ENERGY NEEDS.

IF THE CONGRESS DISCOURAGES EXPLORATION AND PRODUCTION OF THE NATION'S STILL-RICH DOMESTIC PETROLEUM RESOURCES BY IMPOSING BANS ON OFFSHORE DRILLING, THE NATION WILL ONLY BECOME EVEN MORE HEAVILY DEPENDENT ON OIL IMPORTS. AND, BEYOND AN INCREASE IN TANKER TRAFFIC, GREATER DEPENDENCE ON OIL IMPORTED FROM INSECURE AND POSSIBLY HOSTILE FOREIGN SOURCES WOULD SUBJECT THE UNITED STATES TO A VARIETY OF FAR REACHING ECONOMIC AND POLITICAL PROBLEMS, AS AMERICANS LEARNED IN THE 1970S.

WE BELIEVE THERE IS NO ENVIRONMENTAL JUSTIFICATION FOR THE SWEEPING DRILLING BAN APPROVED BY THE HOUSE. THERE HAS BEEN NO MAJOR OIL SPILL INVOLVING FEDERAL OCS PRODUCTION FACILITIES THAT HAS REACHED SHORE IN 20 YEARS. THE U.S. DEPARTMENT OF THE INTERIOR'S FIVE-YEAR OCS LEASING PROGRAM INVOLVES EXTENSIVE

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ENVIRONMENTAL STUDIES, DETAILED DATA COLLECTION AND ANALYSIS, AND MUCH INPUT FROM STATE AND LOCAL OFFICIALS AND THE PUBLIC. OIL COMPANIES MUST OBTAIN 17 FEDERAL PERMITS AND COMPLY WITH 74 SETS OF FEDERAL REGULATIONS TO OPERATE ON THE FEDERAL OCS. MOREOVER, OPERATIONS MUST BE CONSISTENT WITH STATE COASTAL MANAGEMENT PROGRAMS.

CONCLUSION

MY REMARKS HAVE CONCENTRATED ON OUR COMPREHENSIVE RESPONSE TO THE OIL SPILL PROBLEM WITH THE SINCERE DESIRE THAT OUR EFFORTS SOLVE THE ISSUES CONTAINED IN SENATE AMENDMENT 229. HOWEVER, SINCE THE AMENDMENT ALSO ADDRESSES SEVERAL OTHER ISSUES WHICH REQUIRE SPECIFIC COMMENT, I HAVE ATTACHED ADDITIONAL COMMENTS CONCERNING OFFSHORE LEASING (ATTACHMENT A) AND WETLANDS (ATTACHMENT B).

THE INDUSTRY BELIEVES THAT THE API OIL SPILL TASK FORCE'S INITIATIVES AND THE COMPREHENSIVE LIABILITY AND COMPENSATION LEGISLATION WILL PREPARE THIS NATION TO BETTER HANDLE OIL SPILLS IN A SWIFT AND EFFECTIVE MANNER. WE WILL MAKE EVERY EFFORT TO PROTECT THE AMERICAN PEOPLE AND THE ENVIRONMENT FROM OIL SPILL DAMAGE. WE ARE PREPARED TO WORK WITH CONGRESS AND THE ADMINISTRATION TO ENSURE OUR EFFORTS ARE SUCCESSFUL.

API COMMENTS ON OFFSHORE LEASING PROVISIONSS. Amendment No. 229

Senate Amendment 229's process for establishing the "cooperative development of common hydrocarbon-areas" inappropriately excludes participation by the affected federal or state lessees. Specifically, under the amendment, the federal courts would be empowered to enjoin leasehold development and operation if "the [Interior] Secretary and the Governor [of the affected state] do not agree as the method of cooperative development." Moreover, such federal injunctions would remain in effect "until the Secretary and Governor reach agreement on the method of cooperative development and apportionment of resources..."

Such provisions would unacceptably vest the states and federal government with the power to alter, by their own agreement, the extent of a lessee's interest in property which is established by the lease. Apparently, through the state-federal disagreement, leasehold production could be halted, to the manifest detriment of the affected leases. These processes could operate to deprive lessees of their property without due process. Lessees pay large lease bonuses and royalties for properties certain, which should not be subject to arbitrary redetermination or cessation by the agreement of the state and federal governments.

The proposed amendment is also inconsistent with section 8(g) of the Outer Continental Shelf Leasing Act (OCSLA), as amended in 1986 which provides that the Secretary of the Interior "may" enter into an agreement with the Governor of a coastal state to unitize pursuant to existing law -- if he does not, "the Secretary may nevertheless proceed with the leasing of the tract of tracts." In the event the Secretary and Governor do not reach an agreement, the revenue split of 73 percent federal-27 percent state would apply to section 8(g) leases. The United States Court of Appeals for the Fifth Circuit recognized recently Congress' goal in the 1986 amendments to the OCSLA was to "aboli(sh)...provisions requiring the negotiation of revenue sharing agreements." Senate Amendment 229 appears to revive the protracted negotiations over section 8(g) leases which proved so troublesome in the past -- most egregiously, it would exclude the affected lessees from those negotiations.

Attachment BAPI COMMENTS ON WETLANDS PROVISIONS

The wetlands provisions of Senate Amendment 229 include;

(1) Establishment of a Wetlands Protection, Restoration and Enhancement Account in the Treasury Department. Revenue collected on natural gas would be deposited in the Wetlands Account. In addition, after \$500 million is deposited in the oil spill fund, generated by the tax on petroleum, the additional revenue would be deposited into the Wetlands Account.

(2) The administration of the Wetlands Account would be by the Secretaries of the Interior and Treasury.

(3) The Secretary of the Interior, in conjunction with the Chief of the Army Corps of Engineers, the Secretary of Commerce, the Secretary of Agriculture and the Administrator of the EPA, would identify a list of high priority projects to preserve, protect, enhance, restore or create coastal wetlands in the United States. Ten million dollars annually would be allocated to fund the preparation of the projects list.

(4) Funds from the Wetlands Account would be available within a state in proportion to the amount of OCS revenue generated by petroleum activities off the coast of the state.

While API does not have an official position on the wetlands creation and restoration provisions of the amendment, API generally supports efforts to protect critical wetland areas. The creation and protection projects in the amendment are not defined.

Although the amendment does not specify any particular region, the primary beneficiary of the Wetlands Account would seem to be Louisiana, since the state has the largest share of OCS activity off of its coast and 40 percent of the contiguous states' wetlands.

Not only does the amendment not make clear what type of projects would be funded by the Wetlands Account, it does not address the issue of the private property rights of wetlands landowners. Over 75 percent of Louisiana's wetlands are privately owned and any large scale project would affect the private landowner in some way.

The amendment also does not provide any rationale as to why offshore operators alone should bear the cost of wetlands protection. It does not address non-coastal states nor the other

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users of wetland areas. A more comprehensive plan is needed that is coordinated with existing wetlands programs and draws its funding from those who will benefit by wetlands protection -- the public. Funds already exist for wetlands conservation. Almost \$120 million dollars is being appropriated under the Pittman Robertson Act in Fiscal Year 1989 to assist in wetland purchases under the North American Waterfowl Management Plan. The Food Security Act provides easements to farmers who convert cropland back into wetland acreage. The Land and Water Conservation Fund also provides money for the preservation of wetlands. Senate Amendment 229 would not be administered in conjunction with any of these existing funds. If this localized approach is taken for other states, there would be inefficiencies in the overall program on wetlands.

The CHAIRMAN. Thank you very much, Mr. Wyman.

Let me say that I do expect that this legislation will be dove-tailed probably into a national bill. It is certainly my hope that it will.

I think it can stand on its own. But I think it would be better to get a national bill, if we could. We have separate bills for Alaska and for the Gulf because they do have characteristics which are all their own. But if we can work it in, we will.

As far as the Wetlands Fund is concerned, it is a related issue, not a necessary part of the Fund, but is a good vehicle to carry a good bill. We sometimes combine those together, and I think it will give this legislation a particular attractiveness, at least to some of us down in our part of the country.

Speaking of "our part of the country," I want to welcome Mr. John McMahon, who is with Shell in New Orleans.

Mr. McMahon, we are glad to have you here.

Mr. McMAHON. Thank you, Senator.

I have no prepared statement, Senator, but I would be pleased to try to assist in the event that you have any questions from API with regard to the offshore cooperative development provision or the wetlands provisions.

The CHAIRMAN. Good.

Can you tell me this. One of the regional response centers under the Petroleum Industry Response Organization proposal would be headquartered in New Orleans to deal with the Gulf. What facilities, equipment, and personnel will be made available at that center?

Mr. WYMAN. We will have facilities and equipment that would be manned around the clock. The equipment will be sufficient to deal with a 200,000 barrel spill, and there will be other staging centers in the Gulf area.

This will be, you might say, the central point but spread throughout the Gulf area to assure that there is the availability of oil spill response equipment and personnel will be, as I say, staging centers, which will report to the regional center in New Orleans.

The CHAIRMAN. I said the other day when we were here on the Alaska hearings that there were three things that were sort of unique to Alaska. First is the size of the tankers, including danger because of the cold water. Second is the value of the resource in Prince William Sound—not that it is more valuable than the Gulf, but it is exceedingly valuable. Third, I said that navigation ought to be much, much easier up there in that wide, wide channel than in the Mississippi River, particularly in the Lower Mississippi River, and in some parts of the Gulf.

Is that fair, particularly the comparison of the ease or navigation?

Mr. WYMAN. Mr. Chairman, I think it is fair. This is where industry agrees completely with your objectives of assessing where we need vessel traffic systems throughout the United States.

I was very pleased to hear the Coast Guard say that they have an effort underway to determine the priority of where VTS should be installed. I should think that down in your area ought to be very high on the list, if not number one.

The industry does support that. We similarly support expansion of present systems as may be appropriate to assure that coverage is adequate where the system is now operating, such as in San Francisco Bay, the Puget Sound area, and elsewhere.

The CHAIRMAN. Isn't Prince William Sound really very easy to navigate in, relatively speaking?

I mean, it looked to me like that accident happened because it was so easy for John—what's his name—because Hazelwood went downstairs.

Mr. WYMAN. I think any area is easy to navigate in if you keep your eyes on where you are supposed to be and on the navigational aids and you stay within your traffic lanes. Once you disregard the safe navigation principles, you are in big trouble. I don't care whether you are navigating in the Mississippi River or in Puget Sound.

The CHAIRMAN. Well, it looks so difficult to me in the Mississippi River. You are going up against the current and there is a big wind, and there are other ships right close by. That looks like a tremendous challenge.

Mr. WYMAN. Mr. Chairman, there is no question but that I think in the Coast Guard determination, there is need for a Vessel Traffic System, and within industry, we would say mandatory participation within such a system, and not just some of us participating and some don't, but with everyone participating in the system.

This should be a top priority with respect to installing VTSs throughout the United States.

The CHAIRMAN. In New Orleans or throughout the United States?

Mr. WYMAN. In the New Orleans area, yes, sir.

The CHAIRMAN. Not to make too much of it, but on a relative basis, I would think that that would be a huge hazard. Not only do you have petroleum moving up and down, but you have hazardous chemicals. Ammonia moves up and down there all the time. You know, two big ships are going like this [indicating] and a ferry is going in the other direction [indicating] and here comes a tugboat in yet another. I mean, there may not be as much traffic as there was there in 1974 and 1976 that Admiral Lusk was describing, but there is a lot of traffic. I would think that we badly need that equipment.

Now, your statement indicates concerns over the provision of Title VI with regard to the hydrocarbon bearing areas.

Do you think that the law of capture should be the rule of the day on the OCS?

Mr. McMAHON. Senator, the Fifth Circuit specifically held that the law of capture is the law. As you know, that is Louisiana's legal heritage.

As a lawyer, I live with it. So yes, sir.

The CHAIRMAN. Do you think it should be?

Mr. McMAHON. I personally do. Yes, sir.

The CHAIRMAN. I mean, we can make it what it ought to be, and it ought to be capture, then? I mean, doesn't that lead to extra wells?

Mr. McMAHON. I think it could in situations. Certainly that law of capture has been mitigated by both the programs within the

State and Federal governments, to unitize, both voluntary unitization and forced unitization. That is one of the criteria that those bodies look at in order to determine unitization.

The CHAIRMAN. Now the Fifth Circuit did not actually hold that that was the law in the Gulf, I think. They upheld regulations of the Department of the Interior, which so required.

Mr. McMAHON. My recollection is the Fifth Circuit specifically applied the law of capture in that opinion.

The CHAIRMAN. Which was the DOI's regime, and their rules. Isn't that correct?

Mr. McMAHON. I seem to recall that they were talking about Federal common law, the law of capture.

The CHAIRMAN. Well, in any event, it seems to me that that is reverting back to a day when we had the "hot oil" cases. You are probably too young to remember the hot oil cases in World War II, when they would just run the things wide open and deplete resources and have wells every—well, of course, you know that in East Texas, they have a well every 13 feet. It's not necessarily to drain the resource, but was put in because of the rule of capture.

Mr. McMAHON. To get a focus on the problem, I think you have to bear in mind that there is a voluntary unitization that is available across State-Federal lines. I personally participated in over 50 of those units for Shell.

The difficulty appears to be the lack of the ability to force unitize.

We would hope that there are some other remedies, rather than a new law.

I think the best remedy there could be, would be for the Federal and State governments to get together and reach an agreement on forced unitization. I believe they have the authority to do that.

The CHAIRMAN. Well, they have the authority to do that. They just won't do it. They are draining Louisiana resources, both private and State-owned. According to our report, it's some \$29 million worth of drainage. And they're drilling extra wells.

You heard the State of Louisiana man say today that we drilled two extra wells, both of which blew out. You know, that's rushing in to drill extra wells.

Now, surely, at a time when drilling on the OCS is so hazardous in most areas that the Congress is seeing fit to put a moratorium on it, we should not be going out and drilling wells which are clearly unnecessary, which are not only unnecessary but are additional cost and additional hazard, without getting anything for them. Isn't that right?

Mr. McMAHON. Yes, sir.

I would think in the large majority of cases, when the lessees begin the exploration and development phases at approximately the same time, State and Federal, I think you find a strong desire to unitize voluntarily.

The CHAIRMAN. But you don't have it in every case, and that is what this legislation is about.

Mr. McMAHON. No, sir, you do not.

The concern that we have with the legislation, Senator, is the ability of both the Federal and State Governments to bring injunctive actions to stop production. It is a concern to us because what

you may have is a diligent operator on one side that has spent money to acquire leases, that has spent money to explore and to develop prudently for his land owner, whether it be State or Federal, and to get to the point of being able to get into the income stream by the sale of production and then be enjoined.

We feel like there are some rights we have acquired, both in the lease provisions and also statutorily. For example, there is 8(b) of the OCS Lands Act, which provides us not only the opportunity to explore and develop, but also to produce oil and gas in the area.

The lessees have no voice in the procedures as outlined in Title VI, and would have to live with the results and determinations that would come forth from that process.

The deliberations would probably be based on data that some diligent operator had developed, and it would be used in some fashion between State and Federal Governments to determine whether or not there was drainage. We have concern about that.

The CHAIRMAN. Well, we have a real problem with the State of Louisiana—\$29 million of revenue, of oil, which has been drained from the State and the lessees. This is in a government-sponsored and paid for report, which the Secretary of the Interior, as you might have heard earlier, they don't have any quarrel with that. They are not willing now to unitize. They want to continue on just as they are doing, continuing to drain.

Do you have any advice for us on how we can fix that problem?

Mr. McMAHON. First of all, it is not clear in my mind.

I have not seen the results of that study. I was aware it was in the process, though.

The CHAIRMAN. Well, assume that it is correct.

Mr. McMAHON. I am not aware of whether or not they also identified how much the State is draining, the Federal Government.

The CHAIRMAN. That is the net drainage.

Mr. McMAHON. I don't know whether the figure you cited is a net figure or a gross figure.

The CHAIRMAN. It is net.

Mr. McMAHON. Is that the difference between State-Federal?

We felt like the problem had been adequately resolved when you and others amended 8(g) to provide for the 27 percent payment on the three mile zone of Federal waters to the State, as the Fifth Circuit held, to compensate them for drainage and other problems.

The State has no similar payment to the Federal Government, and the State has no three mile zone that the Federal Government shares in.

I thought at the time it came out, and I think there were some statements in the legislative intent, that hopefully we would put this matter to rest.

The CHAIRMAN. Well, first of all, that does not protect the lessees. Second, it surely could not deal with future drainage. I mean, you couldn't say let her rip and just go out with the rule of capture. And if it is, the rule ought to be changed because the rule of capture has to be wrong as a regime on the OCS.

It does require drilling wells which are unnecessary to drain a resource. Doesn't it?

Mr. McMAHON. I think the rule of capture has been livable in Louisiana because of the ability to have voluntary units and even

forced units, because what it has enabled us to do is to address ultimate maximum recovery.

The CHAIRMAN. We have a lot of lessees whom I represent, who are coming in to me and saying, "Senator, I am losing millions of dollars because the Federal Government is draining my resource." What would you have me tell them—that this is livable?

Mr. McMAHON. No, sir. I would suggest that we do everything possible to develop forced unitization between State and Federal Governments.

The CHAIRMAN. Why don't you give us some advice on how to do that. I mean, I would like to do it. I recognize the reality of the problems that you are talking about. But if you can, give us some advice on how to do it without hurting the performance of the diligent operator, without having unnecessary injunctions. I mean, we don't want the injunction for its own sake. We want that simply to encourage the voluntary unitization.

I mean, if there is another way to encourage the voluntary unitization, we would much prefer that, and we certainly do not want to penalize Shell, which I know is a good operator in the Gulf. You know, to have your operation shut down is in no one's interest, not the Federal Government's, not anybody's.

So think about that, if you would, and write us a note or give us a call on how to do that, if you would. I know you are a creative lawyer. Otherwise you would not be working for Shell in New Orleans.

Mr. McMAHON. I can only promise that I would attempt to do it. I am aware of the dilemma and I know that you have been personally involved in trying to get the State and Federal Governments together.

But I think the bottom line is some sort of cooperative, forced unitization. We don't feel like the language in section 6 would get the job done. I think it might create as many problems as it would solve.

Mr. WYMAN. Senator, if I could just offer one observation, I was a petroleum engineer in my former life, and it seems to me that, taking a broader view, if there is, in fact, a loss of ultimate recovery, that is to say, you are not going to recover as much oil from the reservoir as you would through unitization or through cooperative development, that is the one strongest argument for cooperative development that there is, because lessee and lessor alike want to see those leases produce to their maximum capacity.

Mr. McMAHON. Senator, I might also add that I believe the Fifth Circuit left the door open with regard to the issue of ultimate recovery; that is, I think they found that the State of Louisiana failed to show, in the West Delta case you were referring to, they failed to show that there was an effect on ultimate recovery; that is, it diminished ultimate recovery. And they also failed to show that there was waste, and I am not sure what that term means, with regard to the Federal lessee's operations.

That is unanswered, in my opinion, by the Fifth Circuit. I don't know which way they would go. But there is a possibility that you might get injunctive relief in those two situations.

The CHAIRMAN. Well, what I would like for you to do, if you would, is assume that we should have some form of forced unitiza-

tion—granted, voluntary, if that is possible—but some regime to prevent drainage and prevent unnecessary wells. Give us your ideas, if you would, of a better way to do that than we do it in this bill.

Mr. McMAHON. This would just be off the top of my head, but I have participated in forced unitization hearings both before the Commissioner of Conservation for the State of Louisiana and also administratively through the MMS. I have also worked out voluntary unitization, where we had production on both sides of the boundary, and there was a cooperative effort, as long as the lessees were cooperating, whereby, for instance, I remember the Federal Government required a net acre/foot analysis of, you know, when you define the aerial extent of a reservoir, the common reservoir.

The State allowed us to use that approach, even though they typically use another form.

It would seem to me that there would be some sort of forum that would be a joint State-Federal hearing, and we would have hearings and present evidence, and have that body agree.

Maybe I am not in the real world. Maybe that is not politically or practically possible.

The CHAIRMAN. Well, I think it may be. I think the problem here is not that geologists disagree on what the extent of the reservoir is and what the amount of the drainage is. I think the problem here is that they say this was already taken care of by the previous legislation, and that it is, therefore, not necessary.

But I think maybe there is another way we can design this. Perhaps MMS, if given the job with guidelines, perhaps we could even trust them to do it, even though they might be at interest and involved in it.

In any event, if you can help us on that, we would appreciate it.

Mr. McMAHON. I will try, sir.

The CHAIRMAN. Gentlemen, thank you very much. You have been very helpful to the Committee.

We would welcome your further comments.

The record will be open for two weeks for additional statements.

Thank you.

[Whereupon, at 4:12 p.m., the hearing was adjourned.]



APPENDIXES

APPENDIX I

Responses to Additional Questions

U.S. Department
of Transportation

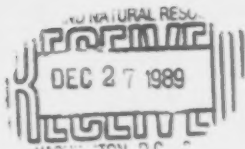
United States
Coast Guard



Commandant
United States Coast Guard

Washington, DC 20593
Staff Symbol
Phone

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366-4280



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DEC 21 1989

The Honorable J. Bennett Johnston
Chairman, Committee on Energy & Natural Resources
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The attached Questions and Answers for the Record of the Senate Committee on Energy and Natural Resources are provided pursuant to the hearing on 21 and 24 July 1989, concerning the Oil Spill Legislation (S. Amendments 100 & 229), submitted as per your request. All responses have been reviewed and approved, as required by the Department of Transportation and the Office of Management and Budget.

Please do not hesitate to call if I can provide further assistance.

Sincerely,

Thomas J. Schaeffer
Captain, U. S. Coast Guard
Chief, Congressional Affairs Staff
By direction of the Commandant

Enclosure: (1) Qs and As for Senator Johnston, 1-22 & 26-39
(2) Qs and As for Senator McClure, 23-25 & 40-42

Copy: (1) Frank Cushing, Minority Staff

RSEN. JOHNSTON.MP2.1
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What do you think should be the Congress' three highest legislative priorities in response to the Exxon Valdez spill?

ANSWER: We feel that the three highest legislative initiatives arising from the Exxon Valdez spill should be:

1. Fair and Equitable Compensation and Liability: Passage of Oil Spill Compensation and Liability legislation and ratification of the 1984 Protocols to the Civil Liability and Fund Convention will: create an equitable, adequate and comprehensive system to compensate those whose interests have been damaged by oil spills; institute a two-tiered liability system based upon high but fair limits of liability for tankers, other vessel owners and facilities; apply to all spillers, domestic or foreign; and, support the aforementioned with an oil industry financed fund.

2. Effective Oil Spill Prevention, Response and Clean-up: Define Federal oil spill response authority to enable the Coast Guard to direct clean-up activity without the necessity for "Federalization"; require Oil Spill Contingency Plans for all vessels and facilities handling petroleum throughout the country; provide the Coast Guard with adequate resources for a review of contingency plans, and for a multi-agency Federal pollution prevention, response and clean-up Research and Development program coordinated by the Coast Guard if such additional funding is needed.

3. Merchant Mariner Training, Qualification and Licensing: Broaden Coast Guard merchant mariner licensing authority to include access to the National Driver's Register; application of "character and habits of life" criteria to merchant mariner's documents as well as licenses; increased authority to suspend or revoke licenses and documents for offenses committed ashore (including DWI and other alcohol-related offenses); and, Ratify the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

RSEN.R. JOHNSTON.MER.2
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: How do you think the Coast Guard could have improved its response?

ANSWER: The Coast Guard could have improved its response if there had been an established Federal On-Scene Coordinator organization for a spill of national significance. One of the lessons we have learned is that a spill of this magnitude can easily overwhelm the organization established in the National Contingency Plan (NCP). The NCP has been adequate in the past, but the Valdez spill was the largest in U.S. history. The Coast Guard plans to study this problem to determine the appropriate organization for a spill of national significance.

The response time for Coast Guard personnel and equipment was excellent considering the difficulty of flying into Valdez. Coast Guard Strike Team equipment had been prestaged in Anchorage. Strike Team personnel and additional equipment were enroute within a few hours of the spill.

JOHNSTON.N.3
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

SENATOR JOHNSTON: I understand that recently some Coast Guard vessel traffic control and radar tracking systems, including the VTS systems in New Orleans and New York, have been curtailed due to budget cuts. Is this correct? Which ports have been affected? Please briefly describe the operation of a VTS system.

ANSWER: The Coast Guard decommissioned Vessel Traffic Services in New Orleans and New York and reduced the staffing at VTS Valdez in 1988. These are the only three ports affected by VTS closures or reductions.

Vessel traffic service systems are manned operating units that receive, process, and disseminate information related to the safe navigation of a port or waterway. They receive information using radar, closed circuit TV, and by verbal reports from participating mariners. This information is displayed at the vessel traffic center where trained operators, using an assigned radio frequency, relay reports to mariners concerning other vessel traffic, hazards to navigation, weather conditions, or anything out of the ordinary which participants are likely to encounter during their transit. VTSS provide information that would not normally be available to the mariner without the VTS. Operations in a VTS are not analogous to air traffic control operations. VTSS advise participants; they do not direct or assume positive control over their movement as do air traffic controllers.

RSEN. JOHNSTON. MER. 4
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Criticism has been leveled at the lack of adequate contingency planning for Prince William Sound. Were the contingency plans for Prince William Sound representative of the state of planning in other areas of the country?

ANSWER: The contingency plans for Prince William Sound were representative of the state of planning in other areas of the country; in some respects, they were more advanced. For example, guidelines for the preauthorized use of dispersants were pioneered by the Alaska Regional Response Team. The EXXON VALDEZ spill raised concern, however, over the adequacy of preparedness for response to a spill of this magnitude. As a consequence, the President directed a nationwide review of contingency planning in major ports to be completed in early 1990. Additionally, the National Oil and Hazardous Substances Pollution Contingency Plan is being reviewed to determine if it should be revised to add a provision dealing with a new category of oil spill: Spills of national significance.

RSNER. JOHNSTON. MVP. 5
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What steps does the Coast Guard now take to ensure that there is not a problem with alcohol and drug abuse among vessel crews?

- What standards with respect to alcohol and drug use are now applied in the issuance and renewal of mariner's documents and licenses?

- Should these standards be modified?

ANSWER: Alcohol related offenses, including DWI's, reflect poorly on the applicant's character and habits of life and are the grounds for the denial of issuance or renewal of a license. Under present laws and regulations, applicants for licenses and merchant mariner's documents who have been convicted of violating a dangerous drug law or have used or been addicted to drugs, can be, and routinely are, denied a license or merchant mariner's document for up to 10 years. Offenses occurring while an individual is the holder of a license or document are grounds for mandatory revocation.

The grounding of the EXXON VALDEZ has focused attention on the issue of alcohol use aboard ships. Currently, we are advising applicants for a license or license renewal that they must disclose all alcohol-related convictions on their application. Applicants with a recent history of alcohol abuse will be denied a license until they can present evidence of rehabilitation.

Current regulations which provide for pre-employment, post-casualty, periodic, random, and for-cause drug testing are being phased in over the next 16 months. Additional regulations prohibit operating a vessel while intoxicated, limit the use and consumption of alcohol on board vessels, and provide for post-casualty and for-cause alcohol testing.

Some modification of the Coast Guard's existing authority is desirable. Legislation proposed by the Coast Guard includes access to the National Driver's Register (NDR), the application of character and habits of life criteria to merchant mariner's documents in addition to licenses, and increased authority to suspend or revoke licenses and documents for offenses committed ashore, including DWI and other alcohol related-offenses.

RSEN.R. JOHNSTON.MMI.6
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCE COMMITTEE

SENATOR JOHNSTON: Does the Coast Guard support random alcohol and drug testing for vessel crews?

- If so, what should be the main features of such a program?

ANSWER: We strongly support random drug testing, and have already incorporated such testing into comprehensive regulatory requirements for detecting drug and alcohol use in the marine industry.

On December 14, 1987, the Coast Guard published final regulations entitled "Operating a Vessel While Intoxicated." These regulations require the commercial marine employer to determine whether there is evidence of drug or alcohol use by individuals directly involved in the occurrence of a marine casualty. Chemical testing of blood, breath, or urine samples may be conducted to assist in this determination. These regulations also authorize marine employers and law enforcement officers (including the Coast Guard) to require chemical testing on reasonable cause. Reasonable cause exists when: an individual is suspected of being intoxicated, or when the individual was directly involved in the occurrence of a marine casualty.

On November 21, 1988, the Coast Guard published further final regulations entitled "Programs for Chemical Drug and Alcohol Testing of Commercial Vessel Personnel." These regulations require the following testing for drugs: periodic testing of persons undergoing physical examinations in connection with U.S. Coast Guard license or Merchant Mariner's Document applications; preemployment testing of new vessel crewmembers; random testing of all permanent vessel crewmembers; and reasonable cause testing of persons suspected of using dangerous drugs. The regulations further require the testing for drug or alcohol use following the occurrence of serious marine incidents which involve death, serious injury, significant property or environmental damage. These regulations provide for a phased implementation schedule as follows:

Large employers (50+ employees):

Preemployment testing - in effect as of
July 21, 1989

All other testing - by December 21, 1989;

Medium size employers (11-50 employees)

Preemployment, reasonable cause, post-casualty
testing - by December 21, 1989

Random testing - by December 21, 1989;

Small employers (10 or less employees):

All types of testing - by December 21, 1990.

RSEN. JOHNSTON.MMI.7
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCE COMMITTEE

SENATOR JOHNSTON: In how many tanker accidents over the past year was alcohol or drug use a factor?

ANSWER: In 1987 and 1988, there were no tanker accidents reported to the Coast Guard in which alcohol or drug use was found to be a causal factor.

RSNER.JOHNSTON.MVP.8
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Do you think that mariners' documents or licenses should be renewed more frequently, to allow for better screening for alcohol and drug abuse?

ANSWER: Under current law, merchant mariners' licenses are renewed every five years. We believe that this period is sufficient to screen for alcohol and drug abuse. Currently, merchant mariner's documents are not required to be renewed. The Coast Guard has proposed legislation that would also require renewal for merchant mariner's documents at five year intervals.

RSNER.JOHNSTON.MVP.9
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Do you think any reforms in vessel licensing are indicated?

ANSWER: The Coast Guard recently completed the first major overhaul of the licensing regulations in the last forty years. The final rule implementing these changes became effective on February 4, 1989.

Current regulations which provide for pre-employment, post-casualty, periodic, random, and for-cause drug testing are being phased in over the next 16 months. Additional regulations prohibit operating a vessel while intoxicated, limit the use and consumption of alcohol on board vessels, and provide for post casualty and for-cause alcohol testing.

Some modification of the Coast Guard's existing mariner's licensing authority is desirable. Legislation proposed by the Coast Guard includes access to the National Driver's Register (NDR), the application of character and habits of life criteria to merchant mariner's documents in addition to licenses, and increased authority to suspend or revoke licenses and documents for offenses committed ashore, including DWI and other alcohol-related offenses.

Until the results of the Coast Guard and National Transportation Safety Board investigations concerning the Exxon Valdez are completed and released, it would be premature to suggest additional reforms to the licensing program.

RSEN. JOHNSTON. MVP. 10
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What are the current requirements for the manning of a tanker such as the EXXON VALDEZ?

- Do you support the concept of redundant manning?

ANSWER: The crew complement stated on the EXXON VALDEZ

Certificate of Inspection was as follows:

1 Master	1 Chief Engineer
1 Chief Mate	1 First Engineer
1 Second Mate	1 Second Engineer
1 Third Mate	1 Third Engineer
3 Maintenancepersons	3 Able Seamen
1 Radio Officer (if required by the FCC)	

This complement is typical of recently constructed motor vessels.

A vessel's manning level is determined by a Coast Guard Officer in Charge, Marine Inspection (OCMI). The OCMI determines the manning requirements after considering the applicable laws, regulations and other factors, including: emergency situations, size and type of vessel, installed equipment, proposed routes of operation, cargo carried, type of service, degree of automation, use of labor saving devices, and the organizational structure of the vessel. The manning level is contingent on the proper operation of the automated equipment, the use of a Maintenance Department, a diesel propulsion system, and the machinery space designed for periodically unattended operation. A vessel that does not have these features will be required to have additional crewmembers.

With respect to redundant manning, the master of the vessel is responsible for establishing adequate watches. He has knowledge of the vessel's location, equipment conditions, traffic density, weather conditions, navigation hazards and other conditions upon which to base a decision on the proper composition and conduct of watches. The minimum required crew complement includes sufficient personnel for the master to augment watches when necessary.

In effect, the concept of "redundant manning" is already in use where the services of a pilot are required for navigation in port areas. The pilot provides the necessary familiarity with local navigational conditions.

We do not support a universal requirement for redundant manning beyond that inherent in the current manning scales. Factors to be included when considering redundant manning include;

- Increased operating costs for the U.S. maritime industry.
- Appropriateness on certain waters, but not on all waters.

RSENR.JOHNSTON.MVP.11
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What additional recruiting, personnel, and job training standards, if any, do you think should be applied to personnel and crews manning oil tankers such as the Exxon Valdez?

ANSWER: The Coast Guard is preparing a supplemental notice of proposed rulemaking on Tankerman Requirements and Qualifications for Persons-In-Charge of Dangerous and Liquefied Gas Transfer Operations. The proposed regulations address the training and service requirements needed to qualify as a person-in-charge of bulk liquid cargo transfers and cargo tank cleaning operations. The Coast Guard believes the new regulations will reduce casualties, personnel injuries, and pollution from normal operations and transfer casualties. While the proposed regulations will not prevent pollution caused by navigational errors, they will raise the overall level of professional knowledge of the personnel manning the vessel and ensure the persons-in-charge of bulk liquid cargo transfers or cargo tank cleaning operations meet higher qualification standards.

The grounding of the EXXON VALDEZ has focused attention on the issue of alcohol use aboard ships. Currently, we are advising applicants for a license or license renewal that they must disclose all alcohol-related convictions on their application. Applicants with a recent history of alcohol abuse will be denied a license until they can present evidence of rehabilitation.

Current regulations which provide for pre-employment, post-casualty, periodic, random, and for-cause drug testing are being phased in over the next 16 months. Additional regulations prohibit operating a vessel while intoxicated, limit the use and consumption of alcohol on board vessels and provide for post-casualty and for-cause alcohol testing.

Some modification of the Coast Guard's existing authority is desirable. Legislation proposed by the Coast Guard includes access to the National Driver's Register (NDR), the application of character and habits of life criteria to merchant mariner's documents in addition to licenses, and increased authority to suspend or revoke licenses and documents for offenses committed ashore, including DWI and other alcohol related offenses.

RSEN.R.JOHNSTON.MVI.12
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What are the current requirements for the use of double bottoms, interior liners, separated compartments, and bow thrusters in tankers? What other vessel design features could reduce the risk of oil spills from tanker accidents, groundings, and collisions?

ANSWER: Presently, there are no requirements that oil tankers be equipped with double bottoms. However, new tankers are required to have Protectively Located Segregated Ballast Tanks (PL/SBTs). New tankers are defined as those having a building contract date after June 1, 1979. PL/SBTs may take the form of double bottoms, double sides, or a combination of the two. Regardless of the configuration, a specified percentage of the cargo area periphery must be protected by the ballast tanks. The percentage is determined by means of a formula and results in 30-45% coverage.

There are no requirements for cargo tank linings or for a tankship to be fitted with a bow thruster. Many tank ships are fitted with bow thrusters at the owner's option. In such cases, Coast Guard regulations require that maneuvering data pertaining to the thruster be displayed in the pilothouse.

The Coast Guard has initiated several studies looking into such topics as tankship construction standards, mitigation of oil outflows from tankers involved in marine casualties, and an examination of existing and potential inspection requirements based upon tankship performance histories. These studies will provide recommendations on how to best reduce the risk of oil spills from tanker accidents.

RSEN. JOHNSTON. MVI.13
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What are current Coast Guard requirements with respect to the inspection of tankers? of barges? What changes, if any, do you think should be made?

ANSWER: U.S. flag tank ships and barges are required to be inspected for certification biennially. This includes a complete inspection of the vessel's safety equipment, propulsion and auxiliary machinery, cargo systems, navigation safety and pollution prevention systems. All tank vessels are also required to undergo an annual reinspection to ensure that the conditions of certification are being maintained. Therefore, each U.S. tank vessel is visited by a Coast Guard inspector at least annually. Additionally, tank ships must be drydocked and structurally examined, including an internal examination of the cargo tanks, at least twice in any five year period. The drydock and internal exam intervals for single hull barges are the same if the barge operates in salt water. However, barges which operate on fresh water routes may be allowed up to five years between drydockings and internal examinations.

Foreign tanker vessels which operate in U.S. waters are required to be examined annually. This exam ensures that the tanker complies with all of the relevant provisions of the navigation safety and pollution prevention regulations. Additionally, foreign tankers must comply with the requirements of the following international conventions or they become subject to full Coast Guard inspection: the International Convention for the Safety of Life at Sea; the International Convention for the Prevention of Pollution by Ships, and the International Load Line Convention. Upon successful examination by the Coast Guard, foreign vessels meeting these requirements are issued a Certificate of Compliance (COC) which is valid for one year. The Marine Safety Information System (MSIS) tracks all tank vessels calling at U.S. ports to ensure that each has a current COC and that outstanding deficiencies are corrected.

The Coast Guard has initiated a study to examine existing inspection laws and regulations for tankships. The study will also investigate potential new inspection requirements with a special emphasis on tankship performance histories.

RSEN.R.JOHNSTON.MPS.14
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSON: Please provide a list of U.S. ports that receive Alaskan crude oil.

ANSWER: The following U.S. ports receive Alaskan crude oil:

ANACORTES, WASHINGTON
BARBERS POINT, HAWAII
CHERRY POINT, WASHINGTON
EL SEGUNDO, CALIFORNIA
FERNDAL, WASHINGTON
HOUSTON, TEXAS
LOS ANGELES, CALIFORNIA
LONG BEACH, CALIFORNIA
NEW ORLEANS, LOUISIANA
NIKISHKA, ALASKA
PORT ARTHUR, TEXAS
SAN FRANCISCO, CALIFORNIA
ST. LUCIA, VIRGIN ISLANDS
TACOMA, WASHINGTON

JOHNSTON.N.15.16
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

SENATOR JOHNSTON: Please provide a list of ports with VTS systems. Which of these systems have radar?

ANSWER: The Coast Guard operates Vessel Traffic Services in the following ports:

- o Houston/Galveston, Texas
- o Berwick Bay, Louisiana
- o San Francisco, California
- o Puget Sound, Washington
- o Prince William Sound, Alaska
- o Sault Ste Marie, Michigan
- o Louisville, Kentucky

All of these have radar except Sault Ste Marie and Louisville.

SENATOR JOHNSTON: What improvements, if any, need to be made in the VTS system in Prince William Sound? I understand the system was cut back before the EXXON VALDEZ spill. What did these cutbacks entail?

ANSWER: The Coast Guard has examined the VTS in Valdez in terms of procedures, personnel, and equipment to determine if any immediate improvements were necessary. As a result of this review we have imposed stricter radar monitoring and plotting procedures and have added an additional radar watchstander to handle this additional workload. Coast Guard engineers have thoroughly tested the radar and communications equipment to determine if it could be improved. Based on their recommendations we intend to replace one of two X-band radars at Potato Point with an S-band radar ... this will improve our foul weather surveillance capability somewhat. We also plan to upgrade radar displays with off-track alarms for the vessel traffic center. Our longer term plans are to extend radar coverage beyond Bligh Reef and study the need and benefits of a dependant surveillance regimen in the lower Prince William Sound area to replace the current self-reporting positioning regimen and to augment radar coverage in the northern sound area. Collectively, these changes will improve service to the mariner and reduce the level of risk.

In 1988, as a result of a budget shortfall, the Coast Guard eliminated the supervisor position from the Vessel Traffic Service in Valdez. This was the only cutback made at Valdez. Valdez was chosen for a reduction because the VTS has less than nine ship movements daily -- a relative low volume of traffic compared to the next smallest VTS which handles over 200 movements daily.

RSEN. JOHNSTON. MER. 17
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What changes do you think need to be made in contingency planning?

- What do you view as the major shortcomings of contingency planning with respect to the EXXON VALDEZ spill?

ANSWER: The National Contingency Plan works well for the vast majority of spills that occur in this country. It is obvious, however, from the experiences of the EXXON VALDEZ spill, that re-examination of the concepts upon which contingency planning is based is needed. For example, spill scenarios predicated on the maximum probable spill in an area need to be developed to allow for a critical assessment of resource shortfalls. Once these shortfalls are identified, active steps can be taken to enhance the response posture for that area. To that end, the Coast Guard is examining all coastal port spill contingency plans to identify resource shortfalls in both the public and private sector for a maximum probable spill.

Clearly, the major shortcoming of contingency planning with respect to the EXXON VALDEZ spill was the failure to have a response structure capable of dealing with a spill of such a large size.

RSEN.R.JOHNSTON.MER.18
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Do you support the concept of specific federal standards for site-specific contingency plans, along with required federal approval of such plans?

ANSWER: We support a statutory requirement for vessel and facility contingency plans as a complement to the existing contingency planning structure under the National Contingency Plan. We also support federal review of such plans by Coast Guard field units. However, additional resources would be required to implement review of plans for all facilities and vessels handling petroleum in bulk throughout the country.

RSEN. JOHNSTON. MER. 19
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Do you support the formation of full-time oil spill response teams organized on a local basis?

ANSWER: We have historically encouraged the formation of industry oil spill response cooperatives, and we continue to strongly support this approach as the most efficient means of responding to oil spills.

Additionally, the Coast Guard currently maintains oil spill response personnel at each of the 49 Marine Safety Offices/Captains of the Port around the country. We also maintain personnel and specialized equipment at the two National Strike Teams located in Mobile, Alabama, and Alameda, California.

RSEN. JOHNSTON. MER. 20
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: In its submission to the National Transportation Safety Board dated July 17, 1989, the State of Alaska makes several recommendations. Do you agree with these?

ANSWER: The National Transportation Safety Board (NTSB) is the lead agency for the investigation of the grounding of the EXXON VALDEZ; it is inappropriate for the Coast Guard to comment on correspondence between Alaska and the NTSB at this time. After issuance of the NTSB report, the Coast Guard will reply to the findings and recommendations of the NTSB, including those issues raised by the State of Alaska and addressed by the NTSB.

RSEN. JOHNSTON. MER. 21
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: It seems to me that a large problem in the EXXON VALDEZ spill response was a lack of clarity as to who was responsible to take charge of cleanup activities. What legislative steps need to be taken to ensure that in the future, the Coast Guard will be clearly responsible for oil spill cleanup?

ANSWER: Present legislation makes it very clear who is responsible for ensuring that cleanup activities are timely, adequate, and will minimize environmental damage. The Coast Guard clearly has this responsibility in the Valdez spill.

Legislation is needed to increase the liability of the spiller and greatly increase the funds in the Oil Spill Pollution Fund. Ratification of the 1984 Protocols is essential.

No legislative changes are needed to clarify the Coast Guard's role in marine pollution response. From the beginning of the Valdez incident, the responsibilities of Exxon as the responsible party, and of the Coast Guard as federal coordinator of cleanup activities, were clear and mutually understood.

There was, however, considerable misunderstanding on the part of individuals who were drawn into the incident. The size of the spill, its location in environmentally sensitive areas, and the potential economic impacts resulted in great visibility. As a result, many people and organizations became involved who would not normally play a significant role. Public, state and federal high-level managers, administrators and representatives had a sudden need to know and understand the relationship of the responsible party and the Coast Guard. A massive educational program was undertaken; many people received information through the national press, which itself was learning critical information for the first time.

The relationship of Exxon as the spiller and the Coast Guard as having responsibility for oversight has been constant throughout the response effort. This spill, however, has resulted in a greater involvement of state and federal resources in the implementation of response activities so that the broadest range of political, social, economic and environmental concerns are addressed. The evolution of the Coast Guard Federal On-Scene Coordinator organization, from that initially in place under the National Contingency Plan, was a reaffirmation of the Coast Guard's primacy in marine pollution response. It demonstrated the Coast Guard's dedication and ability to reallocate its resources to maintain a meaningful and responsive oversight presence under the most difficult conditions.

RSEN. JOHNSTON. MER. 22
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: How many "major" oil spills occurred offshore Alaska during the three most recent years for which statistics are available?

- How many of these were vessel spills?
- How many were non-vessel spills?
- Please state how you define "major" for purposes of your response.

ANSWER: A "major" spill is a discharge of 100,000 gallons or more in coastal waters or 10,000 gallons or more in inland waters. The classes of spills and the delineation of inland and coastal waters are defined in the National Contingency Plan (40 CFR 300.6).

In the last three years, there were three major spills in the coastal waters of Alaska; all were from vessels.

McCLURE.LMI.23
17 OCT 89

QUESTIONS SUBMITTED BY SENATOR McCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR McCLURE: Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment No. 229 for the Wetlands Account.

ANSWER: We note that under the proposed Amendment the Offshore Oil Pollution Fund, established under 43 U.S.C. 1812 (a) and currently administered by the Coast Guard, would be divided into an "Oil Pollution Account" and a "Wetlands Account." The Oil Pollution Account would serve the functions currently provided by the Fund. It does not appear that the Wetlands Account funding mechanism would affect the ability of the Coast Guard to perform its responsibilities associated with the administration of the Oil Pollution Account or any other function assigned to this agency. Consequently, the Coast Guard has no comment to make on that funding mechanism.

McCLURE.LMI.24
17 OCT 89

QUESTIONS SUBMITTED BY SENATOR McCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR McCLURE: Please provide the Committee with your views on the expenditures of funds for Wetlands as proposed by Printed Amendment No. 229.

ANSWER: We note that under the proposed Amendment neither the Secretary of Transportation nor the Coast Guard in particular would be charged with any responsibilities related to expenditures for the "Wetlands Account." Further, there does not appear to be any function currently administered by the Coast Guard which would be adversely affected by any such expenditure. Consequently, the Coast Guard has no comment to make as to such expenditures.

RSEN.MCCLURE.MP2.25
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR MCCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR MCCLURE Do you think that Congress should approach the issue case-by-case, as is envisioned by printed amendments No. 100 and 229, or should there instead be a comprehensive bill such as the ones proposed by the Administration and Senator Mitchell?

ANSWER: We strongly favor an approach that uses comprehensive, consensus legislation as opposed to location-specific legislation.

RSEN. JOHNSTON. MER. 26
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What oil spill contingency plans are currently in place for vessels and facilities in the lower Mississippi River and the Gulf of Mexico?

- Under what authorities are these plans required?
- Who approves these plans and what standards are applied in the approval process?

ANSWER: There are currently no required local contingency plans for vessels or facilities. However, there is a requirement for each facility to have an operations manual, a part of which describes how they would cleanup an oil spill in the waters around the facility. The manual is reviewed by the Coast Guard Captain of the Port who issues a "Letter of Adequacy" vice approval.

The national network of contingency planning is based on three levels: The National Contingency Plan, regional contingency plans for each standard federal region developed by Regional Response Teams (RRTs) working with the States, and On-Scene Coordinator (OSC) contingency plans developed by the local predesignated federal OSC and designed to be compatible with all appropriate response plans of the state, local and other non-federal entities within the OSC's area of responsibility. At present there is no approval process for these plans.

In the Gulf of Mexico and lower Mississippi River there are two regional contingency plans, Regions IV and VI, and nine local OSC contingency plans: Paducah, KY; Memphis, TN; New Orleans and Morgan City, LA; Corpus Christi, Galveston, Houston and Port Arthur, TX; and Mobile, AL. These OSC plans are not limited to the port city named, but instead, cover an entire zone and abut each other.

As a result of the EXXON VALDEZ oil spill, the President directed a nationwide review of contingency plans in major ports to be completed in early 1990.

RSEN. JOHNSTON. MER. 27
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: How often are drill exercises for oil spills conducted in the Gulf of Mexico? Please describe those drills.

ANSWER: The frequency of exercises of oil spill response conducted in the Gulf of Mexico varies from unit to unit. Each Coast Guard Marine Safety Office (MSO) participates in an average of seven or eight exercises a year which are typically conducted with local oil companies, contractors, and off shore platforms. The drills involve personnel and equipment deployment in simulated incidents.

In addition, one of six annual Regional Response Team/On-Scene Coordinator exercises is usually conducted in the Gulf of Mexico. These exercises are designed to test the federal response mechanism for coordinating the activities of federal, state and local entities involved in a spill response. The exercises last two days and involve as many as 300 people.

The Atlantic Area Strike Team of the National Strike Force, located in Mobile, Alabama, conducts an annual equipment deployment and participates in a variety of drills and exercises around the country.

Besides the scheduled drills, all Coast Guard MSO personnel are continually involved in training for pollution response through the Coast Guard's Reserve Training Center in Yorktown, VA and other locales around the country.

RSEN. JOHNSTON. MI. 28
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What research is currently being conducted at the federal level on oil spill response techniques?

- o What agencies are involved and what is the level of funding?

ANSWER: The Coast Guard has been active in oil spill technology Research and Development (R & D) since 1969. Through 1980, approximately \$4-6 million was spent annually against a plan to develop a governmental response capability. Between 1981 and 1984 the annual budget dropped to approximately \$3.2 million per year and after 1984 the budget dropped further to \$200,000 to \$300,000 annually. The drop in funding was due to our completing all planned work and the decision to encourage development of response capability in the commercial sector. Also, the Federal R & D effort shifted its focus to hazardous materials research.

At the present time we have not fully identified the level of involvement or funding by other federal agencies in research and development on oil spill response techniques.

The Coast Guard is moving to give Federal oil pollution related R & D greater emphasis, visibility and coordination. Three important steps have been taken:

-- An internal Coast Guard Oil Pollution R & D Committee has been established.

-- On September 26, 1989, a Federal interagency meeting was held at the Coast Guard R & D Center to form the basis of an Interagency Working Group and to identify areas for future efforts. Present at the meeting were representatives from: the Coast Guard, Environmental Protection Agency, Minerals Management Service, Department of the Interior, Department of Energy, Naval Sea Systems Command, Marine Board of the National Research Council, U.S. Army, National Oceanic and Atmospheric Administration, National Institute of Standards and Technology, Office of Technology Assessment, and the National Science Foundation. The working group is scheduled to meet again in November 1989.

-- On September 18, 1989, Coast Guard representatives attended a meeting at the International Maritime Organization (IMO) in London which met to consider a world wide conference on oil pollution R & D as called for by President Bush at the Paris Economic Summit.

RSEN. JOHNSTON. MER. 29
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What level of funds should be made available to the Coast Guard annually for oil spill response?

- o In the case of the Exxon Valdez spill, have adequate funds been made available through the section 311(k) fund?
- o How much money should be made immediately available through that fund for response to major spills?

ANSWER: Annual obligations from the 311(k) Fund have ranged from a low of less than \$1 million in the early years of the Program to over \$25 million, which included hazardous substance transactions now handled under CERCLA/Superfund. The FY-90 budget shows a \$5.7 million appropriation for the 311(k) Fund, which is an estimate of collections. Currently, we recover about 50% of costs, and there is a net outflow from the Fund. Section 311(k)(2) of the Clean Water Act identifies \$12 million as the recommended minimum. The current balance is approximately \$2 million.

The 311(k) Fund had a balance of \$6.7 million on March 24, 1989, the day of the EXXON VALDEZ spill. Since then, we have obligated over \$25 million from the Fund for the EXXON VALDEZ case, and documented another \$25 million in CG costs that will be reimbursable. These obligations were possible only because Exxon has been extremely cooperative in reimbursing the Fund on the basis of preliminary accounting data. This type of prompt reimbursement has never happened before.

To provide adequate funding for pollution responses over the next several years and to maintain sufficient flexibility to respond to larger than average events, the Coast Guard supports passage of Oil Spill Compensation and Liability legislation which includes ratification of the 1984 Protocols to the Civil Liability and Fund Conventions. The Administration has submitted a bill that would: create an equitable, adequate and comprehensive system to compensate those whose interests have been damaged by oil spills; institute a two-tiered liability system based on high but fair limits of liability for tankers, other vessel owners and facilities; apply to all spillers, domestic or foreign; and, support the aforementioned with an oil industry financed fund.

RSEN. JOHNSTON. MER. 30
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: How many claims have been asserted against the Offshore Oil Pollution Compensation Fund since its creation? Please describe the circumstances surrounding these?

ANSWER: None of the over eleven thousand offshore spills reported to the National Response Center since the Offshore Oil Pollution Compensation Fund was established in 1979 has resulted in assertion against the Fund or claims for cleanup and damages. Where cleanup was necessary, the spiller promptly undertook his own cleanup or hired a commercial cleanup contractor.

RSEN. JOHNSTON. MER. 31
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: How many and what percentage of major oil spills in the Gulf of Mexico are a result of spills from vessels and how many and what percent result from spills from OCS facilities relating to the development and production of oil and gas? In responding to this question, please state your definition of "major spills" and specify what geographic areas your answer covers.

ANSWER: As defined in the National Oil and Hazardous Substances Pollution Contingency Plan, a major spill in coastal waters is a spill greater than 100,000 gallons. The following table covers the offshore waters of the Gulf of Mexico.

MAJOR OIL SPILLS IN THE GULF OF MEXICO
1986 TO 1988

YEAR	SPILLS	VESSEL	NON VESSEL
1986	3	2 (67%)	1 (33%)
1987	0	0 --	0 --
1988	5	3 (60%)	2 (40%)
3 Yr Total	8	5 (62.5%)	3 (37.5%)

The largest OCS spill of record occurred on February 8, 1988, from a ruptured pipeline facility located approximately thirty-one nautical miles southeast of Galveston, Texas. It was estimated that about 15,000 barrels, or 630,000 gallons were spilled. This has been the only major discharge resulting from OCS activities since the Fund program was established in 1978.

The database in which pollution information is kept, the Marine Safety Information System (MSIS), identifies the origin of spills as VESSEL and NON-VESSEL only. The latter category includes all types of facilities: test, production, pipeline, oil, LNG, etc. Figures for the category, oil development and production, are not available.

RSEN.R.JOHNSTON.MER.32
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: In total, how many "major" spills occurred in the Gulf of Mexico and lower Mississippi River (as defined in the bill) during the three most recent years for which statistics are available?

ANSWER:

MAJOR SPILLS IN THE GULF OF MEXICO AND LOWER MISSISSIPPI RIVER
1986 TO 1988

YEAR	TOTAL	VESSEL	NON-VESSEL
1986	5	4	1
1987	0	0	0
1988	8	6	2
3 Yr Total	13	10	3

The table reflects two different definitions of a major spill: In the Gulf of Mexico (offshore), a major spill is 100,000+ gallons; in the Lower Mississippi River (inshore), a major spill is 10,000+ gallons.

RSEN. JOHNSTON. MER. 33
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: In total, how many "major" oil spills occurred offshore nationwide for these years?

ANSWER: In the period 1986 to 1988, inclusive, there were a total of 12 major offshore spills nationwide.

RSEN. JOHNSTON. MVP. 34
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Please describe the pilotage requirements for the lower Mississippi River, the Gulf Intracoastal Waterway and the Port of New Orleans.

What are the other crew licensing requirements for tankers operating in these areas and in the Gulf of Mexico?

What are the crew manning requirements for tankers operating in these areas and in the Gulf of Mexico?

ANSWER: There are two broad groups of pilots: State pilots and Federal pilots. As the name implies, State pilots are regulated by states, and the Federal pilots are regulated by the Federal Government (Coast Guard).

Generally speaking, pilotage requirements for vessels engaged in foreign trade are under the jurisdiction of the states. Pilotage requirements for vessels engaged in domestic trade are under the jurisdiction of the Federal Government. The applicable statute, (46 U.S.C. 8502), specifies that every domestic, coastwise seagoing vessel, propelled by machinery and subject to inspection for certification, and all seagoing tank barges, when underway and not on the high seas, must be under the control of a Federal pilot. As a practical matter, Federal pilotage applies to inspected vessels in the domestic trade with coastwise or ocean routes, whenever they are operating on waters inside the limits of the Territorial Sea (the 3 mile line).

Therefore, Federal pilots are required on inspected coastwise seagoing vessels on the lower Mississippi River, the Gulf Intracoastal Waterway, and in the port of New Orleans.

Normally, U.S. vessels certificated for inland routes do not require a pilot. These would include certain tug and barge combinations and certain small self-propelled vessels.

As indicated previously, pilotage for vessels engaged in foreign trade is under the authority of the states.

There are extensive experience and testing requirements for the issuance of merchant mariner licenses.

The requirements vary depending on gross tonnage of the vessel and the the routes of operation. For large vessels, the experience and testing requirements are the most extensive. (Merchant mariner licensing requirements are contained in 46 Code of Federal Regulations, Subchapter B, Parts 10 and 12.) There are no special license requirements for the Gulf of Mexico.

Vessel manning levels are determined by the Coast Guard Officer in Charge, Marine Inspection (OCMI) when the vessel is inspected. The minimum crew complement for the safe operation of a vessel is stated on the vessel's Certificate of Inspection (COI).

RSENR.JOHNSTON.MVP.34
25 SEP 89

The OCMI determines the manning requirements for each vessel after considering the applicable laws, regulations and many other factors, including emergency situations, size and type of vessel, installed equipment, proposed routes of operation, cargo carried, type of service, degree of automation, use of labor saving devices, and the organizational structure of the vessel.

The typical manning requirements on a large tank vessel is:

1 Master	1 Chief Engineer
1 Chief Mate	1 First Assisant Engineer
1 Second Mate	1 Second Assisant Engineer
1 Third Mate	1 Third Assisant Engineer
1 Radio Officer	3 Firemen/Watertenders
(if required by the FCC)	3 Oilers
6 Able Seamen	
3 Ordinary Seamen	(3 individuals with tankerman endorsement)

However, these positions are subject to variables such as; statutory watchkeeping requirements, workhour limitations, routes of operation and the other factors listed above. A modern tank vessel will have a slightly smaller crew because of automation and the reduced need for on board maintenance of equipment.

For example, the requirement for 3 firemen/watertenders on steam vessels may be deleted due to the installation of fully automated boilers. Firemen/watertenders would not be required on a diesel powered vessel. The requirement for some or all of the watch standing oilers may be deleted due to the installation of full automation, centralization of controls, and systems monitoring. The requirement for 3 ordinary seamen may be eliminated by the installation of a watch-call system, sanitary facilities on the bridge, and other labor saving devices.

Other than pilotage requirements, there are no special manning requirements for tank vessels operating in different geographical areas.

JOHNSTON.N.35
25 SEPT 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

SENATOR JOHNSTON: How much would it cost on an annual basis to maintain and operate a radar-equipped VTS system for the Port of New Orleans?

ANSWER: The preliminary estimates to reopen a Vessel Traffic Service (VTS) in New Orleans range from \$6 to \$18 million in initial cost and \$2 to \$4 million in operating expenses thereafter. The range of cost is dependent on the size of the area to be covered using surveillance systems. Options are to limit coverage to the New Orleans Crescent or extend service from the Gulf of Mexico to Baton Rouge.

RSEN. JOHNSTON.MER.36
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What role does the Coast Guard play in responding to oil spills from offshore oil and gas production and development activities?

ANSWER: Under the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300), the Coast Guard is delegated response powers for the coastal zone which includes activities under the Outer Continental Shelf Lands Act (43 U.S.C. 1331). For oil spills associated with offshore oil and gas production and development activities, the Coast Guard assumes the role of On-Scene Coordinator. In responses involving offshore facilities, the Minerals Management Service offers extensive expertise and resources to assist the OSC during an incident.

Under separate authority, the Minerals Management Service requires a contingency plan for offshore facilities which includes pollution response. The cognizant Coast Guard Marine Safety Office reviews the pollution response portion of the plan.

RSEN. JOHNSTON. MER. 37
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: What is the range of projected initial response times for oil spills from offshore oil and gas production and development activities?

ANSWER: In the Gulf of Mexico, response times will vary from 4 to 25 hours. Off the California coast, there are fewer platforms, which are closer to the shoreline, and have pollution response equipment prestaged aboard the platforms; therefore, response times can be expected to be as short as 1 hour.

Under a Memorandum of Understanding between the Department of Transportation and the Department of the Interior, the Coast Guard and the Minerals Management Service (MMS) share in the response to pollution incidents involving offshore facilities. The Coast Guard is the designated On-Scene Coordinator, and considerable assistance is available from MMS.

The MMS imposes additional regulations found in 30 CFR, Part 250, for pollution prevention and control for offshore facilities. Initial response times approved by MMS vary, depending on the location of onshore equipment and the distance of the equipment base to the location of the offshore facility. In the Gulf of Mexico, there are numerous platforms, the farthest from the shore being 140 miles in the Garden Banks area. The oil companies have established Emergency Response Cooperatives for responding to pollution incidents.

RSEN. JOHNSTON. MVI. 38
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: Are oil tankers operating in the Gulf of Mexico or lower Mississippi River currently required to have double hulls or double bottoms? What are the current requirements for safety lines between towing vessels? What are the current requirements for bow thrusters?

ANSWER: Presently, there are no requirements that oil tankers be equipped with double bottoms when operating in the Gulf of Mexico, Lower Mississippi River, or in any other U.S. location. However, new tankers are required to have Protectively Located Segregated Ballast Tanks (PL/SBTs). New tankers are defined as those having a building contract date after June 1, 1979. PL/SBTs may take the form of double bottoms, double sides, or a combination of the two. Regardless of the configuration, a specified percentage of the cargo area periphery must be protected by the ballast tanks. The percentage is determined by means of a formula and results in 30-45% coverage.

There are no requirements for "safety lines" between towboats and their tows. Most inland towboats are designed with a square bow that lays flush against the barge being pushed. The towboat and the barge are then connected by means of wire cables. There are no federal regulations for the size or number of these cables.

Tankships are not required to have bow thrusters; however, many vessels do have them at the owner's option. Bow thrusters provide added maneuverability at slow speeds and are helpful during docking and undocking maneuvers. Normally, tankships hire tugs to assist in docking and undocking, even when the vessel is equipped with a bow thruster.

Similarly, it is common practice for many multiple-barge tows on the inland waterway system to use a bow thruster unit, even though there is no regulatory requirement to do so. These units are actually special barges which have propulsion machinery designed for this purpose. They are positioned at the leading end of the tow and are remotely controlled from the towboat.

RSEN. JOHNSTON.MVI.39
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR JOHNSTON
ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR JOHNSTON: How often are oil tankers operating in the Gulf of Mexico subject to inspection? Please provide a general description of such inspections.

ANSWER: U.S. tank ships are required to be inspected for certification biennially. This includes a complete inspection of the vessel's safety equipment, propulsion and auxiliary machinery, cargo systems, navigation safety and pollution prevention systems. Tankers are also required to undergo an annual reinspection to ensure that the conditions of certification are being maintained. Therefore, each tank vessel is visited by a Coast Guard inspector at least annually. Additionally, tank ships must be drydocked and structurally examined, including an internal examination of the cargo tanks, at least twice in any five year period.

Foreign tankers which operate in U.S. waters are required to be examined annually. This exam ensures that the tanker complies with all of the relevant provisions of the navigation safety and pollution prevention regulations. Additionally, foreign tankers must comply with the following international conventions or they become subject to full Coast Guard inspection: the International Convention for the Safety of Life at Sea; the International Convention for the Prevention of Pollution by Ships; and the International Load Line Convention. Vessels found to be in compliance are issued a Certificate of Compliance (COC) which is valid for one year. Local Coast Guard Marine Safety Offices use the Marine Safety Information System (MSIS) to track all tank vessels calling at U.S. ports to ensure that each has a current COC and that outstanding deficiencies are corrected.

McCLURE.LMI.40
17 OCT 89

QUESTIONS SUBMITTED BY SENATOR McCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR McCLURE: Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment No. 229 for the Wetlands Account.

ANSWER: We note that under the proposed Amendment the Offshore Oil Pollution Fund, established under 43 U.S.C. 1812 (a) and currently administered by the Coast Guard, would be divided into an "Oil Pollution Account" and a "Wetlands Account." The Oil Pollution Account would serve the functions currently provided by the Fund. It does not appear that the Wetlands Account funding mechanism would affect the ability of the Coast Guard to perform its responsibilities associated with the administration of the Oil Pollution Account or any other function assigned to this agency. Consequently, the Coast Guard has no comment to make on that funding mechanism.

McCLURE.LMI.41
17 OCT 89

QUESTIONS SUBMITTED BY SENATOR McCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR McCLURE: Please provide the Committee with your views on the expenditures of funds for Wetlands as proposed by Printed Amendment No. 229.

ANSWER: We note that under the proposed Amendment neither the Secretary of Transportation nor the Coast Guard in particular would be charged with any responsibilities related to expenditures for the "Wetlands Account." Further, there does not appear to be any function currently administered by the Coast Guard which would be adversely affected by any such expenditure. Consequently, the Coast Guard has no comment to make as to such expenditures.

RSEN.R.MCCLURE.MP2.42
25 SEP 89

QUESTIONS SUBMITTED BY SENATOR MCCLURE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SENATOR MCCLURE Do you think that Congress should approach the issue case-by-case, as is envisioned by printed amendments No. 100 and 229, or should there instead be a comprehensive bill such as the ones proposed by the Administration and Senator Mitchell?

ANSWER: We strongly favor an approach that uses comprehensive, consensus legislation as opposed to location-specific legislation.



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C. 20310-0103

07 AUG 1989

OFFICIAL COMMITTEE FILE
PLEASE RETURN

-8 PM 8:51

Honorable J. Bennett Johnston
Chairman
Committee on Energy and Natural Resources
United States Senate
Washington, D. C. 20515-6150

Dear Mr. Chairman:

Enclosed are responses to questions you sent by letter of July 26, 1989, concerning S. Amendment 229, the Gulf of Mexico Oil Spill Prevention and Response Act.

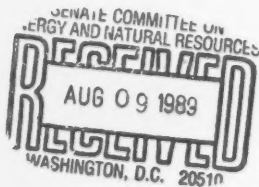
If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Robert W. Page
Assistant Secretary of the Army
(Civil Works)

Morgan R. Rees
Deputy for Policy, Planning
and Legislative Affairs
OASA(CW)

Enclosure



QUESTIONS OF SENATOR JAMES A. MCCLURE
RANKING REPUBLICAN MEMBER

QUESTION: Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment No. 229 for the Wetlands Account.

ANSWER: The Department of the Army has not established a position on the funding mechanism proposed by Senate Amendment 229 and defers comment on this provision to the Secretaries of the Interior and Treasury, since the amendment assigns them responsibility for administering the Wetlands Account.

QUESTION: Please provide the committee with your views on the expenditures of funds for wetlands as proposed by Printed Amendment No. 229.

ANSWER: The Department of the Army has not established a position on the proposed expenditures of funds from the Wetlands Account as proposed in Senate Amendment 229. The Secretaries of the Interior and Treasury will probably have the lead on establishing the Administration's position since the bill would assign them responsibility for administering the Wetlands Account.

ADDITIONAL QUESTION FOR THE RECORD FROM SENATOR JOHNSTON
TO THE CORPS OF ENGINEERS ON S. AMENDMENT 229

QUESTION: On the first page of your statement you mention the creation of an inter-agency Wetlands Task Force under the Domestic Policy Council. When was this task Force established? When did it last meet? When is it scheduled to meet again? Has it reviewed and made any specific comments on any of the various wetlands bills introduced by members of the Louisiana Congressional Delegation?

Answer: The Task Force was established in May 1989, and conducted its first meeting on July 5, 1989. The Task Force has not reviewed or commented on any wetlands bills. No date has been scheduled for the next meeting.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

AUG 15 1989

Honorable J. Bennett Johnston
Chairman, Committee on Energy and
Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

This is in response to your letter of July 26, 1989, forwarding followup questions from the hearing on Senate Amendment 229, the Gulf of Mexico Oil Spill Prevention and Response Act. Our responses are enclosed.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

S. Scott Sewell

S. Scott Sewell
Deputy Assistant Secretary
Land and Minerals Management

Enclosure

ADDITIONAL QUESTIONS FOR THE RECORD FROM SENATOR JOHNSTON TO THE DEPARTMENT OF THE INTERIOR ON S. AMENDMENT 229

Question 1a How long do you project initial response times to be for facilities located offshore in the Gulf?

Response: Initial response times approved by Minerals Management Service (MMS) in Exploration Plan's (EP's) and Development and Operations Coordinations Documents vary from 4 to 24 hours depending on the location of the onshore equipment and the distance from the equipment base to the location of the offshore facility. The platform farthest from shore is approximately 140 miles offshore in the Garden Banks Area of the Gulf of Mexico.

Question 1b Would many facilities have longer than a 12-hour initial response time?

Response: Yes. The majority of the facilities located more than 60 miles from an onshore equipment base have response times greater than 12 hours. It should be noted, however, that an oil spill at these distances from shore would not normally be an immediate threat to coastlines in the Gulf of Mexico (GOM) because (1) prevailing currents and winds do not tend to move spills directly toward shorelines, (2) the greater the distance from shore of a facility the greater the time available before a coastline could be impacted, and (3) GOM crudes are generally light and therefore are easily vaporized and naturally dispersed.

Question 1c What can be done to improve this situation?

Response: This is not necessarily a bad situation due to the types of crudes found in the GOM as noted above. Quicker response times than currently pertain could be accomplished with a higher state of immediate preparedness. Examples include:

- (1) Require fully equipped and manned response vessels to be located at specified equipment bases. This would allow for a 12-hour response for facilities located within 120 miles of the nearest equipment base. The vast majority of GOM facilities would therefore be covered in this timeframe.
- (2) Require Fast Response Units (FRU's) and other response equipment and crews to be stationed at offshore locations.

Question 2

That same report [June 1989 Oil Spill Task Force Report] indicates that MMS has no documented guidelines for reviewing and approving contingency plans.

- o What standards does the agency now apply in approving these plans?
- o What steps will MMS take to put written guidelines in place?

Response:

In reviewing Oil Spill Contingency Plans (contingency plans), MMS determines whether the plans meet the requirements in MMS regulations. In addition, MMS considers local conditions such as proximity to sensitive environmental areas. The MMS review is supplemented by U. S. Coast Guard review. The Coast Guard determines when and to what extent they become involved in the review of particular contingency plans.

Contingency Plan review guidelines are under development and drafts of the guidelines will be completed by the end of August. The MMS is evaluating the performance of lessees in responding to actual spills and in responding to simulated spills during announced and unannounced spill response drills. If deficiencies are discovered in contingency plans, MMS will determine how the deficiencies can best be eliminated. The MMS will refine the review guidelines as necessary to best assure that lessees are prepared to respond in the event of an oil spill.

Question 3

Was every OCS facility (including production platforms, drilling rigs, and pipelines) subject to an unannounced inspection during FY 1988?

Response:

No. In FY 1988, approximately one-third of all inspections in the GOM were unannounced.

Question 4

What oil spill response equipment is currently required to be maintained at OCS facilities?

Response:

The MMS regulations provide for the Regional Supervisor to determine where response equipment is to be stored. Oil spill response plans are evaluated based on the capability to provide timely response taking into account probable movement of oil based on trajectory analyses. In some areas, the Regional Supervisor requires that initial response equipment be located at offshore facilities. This is true primarily in areas where there are relatively few platforms and the platforms are typically near shore. For example, for operations in the Pacific, typical requirements include 1,500 feet of open-ocean boom, one or two high capacity open-ocean skimmers, several bales of sorbent pads, and oil storage containers. On site equipment is also required in Alaska, the Atlantic, and the eastern Gulf of Mexico.

In all areas, additional equipment is located in pre-staged areas under a cooperative agreement among groups of lessees. In the Atlantic, equipment is stored on vessels which are ready to respond when needed. In the central and western Gulf of Mexico, equipment is stored at nine locations and loaded on vessels when needed.

In all cases, the adequacy of the equipment at the locations is determined based on the length of time required for initial and secondary response to possible spills.

Question 5

How many oil spill contingency plans currently in effect have been approved by MMS in the Gulf?

Response:

All 118 regional oil spill contingency plans on file in the Gulf of Mexico Region were approved by MMS and are in effect. This is an ongoing process; the plans are reviewed and updated annually.

Question 6

In addition, the June 1989 report indicates that MMS has no minimum performance requirements or standard test procedures for spill containment and cleanup equipment. What steps will MMS take to remedy this situation?

Response:

The June 1989 Report was intended to note that such requirements and procedures are not in existence anywhere. The MMS is now taking the lead in developing standard test procedures to evaluate the performance of skimmers and containment booms in a range of conditions. For skimmers, these evaluations will address amounts of oil recovered, oil-water ratios, and efficiencies in various tow speeds and wave conditions. Oil with a range of characteristics will be used for these tests. This test procedure will be based upon the Oil and Hazardous Materials Simulated Environmental Test Tank (OHMSETT) skimmer evaluation protocol. Once MMS is satisfied that this test procedure represents a reasonable standard evaluation methodology, it may require that all skimmers proposed for future Oil Spill Contingency Plans be evaluated by this method. Actual performance data could then be the basis for MMS regional field office equipment acceptance.

A standardized test procedure was developed for offshore containment booms which correlates the ability of a boom to comply with the ocean's surface and the booms ability to contain oil. This procedure has been technically verified but has not been finalized. This test method is intended, as in the case of skimmers, to be adopted by MMS as the basis for approval of proposed offshore booms.

Question 7

The report finds that collision avoidance systems may not be adequate in some areas with high-density traffic. Is this true in the Gulf and lower Mississippi River?

Response:

While MMS has limited authority and expertise regarding collision avoidance systems, we have concerns over whether or not they are adequate in the Gulf of Mexico. Our regional office will be contacting the local offices of the U.S. Coast Guard and the U.S. Army Corps of Engineers to offer assistance in reviewing their requirements. If an avoidance system is determined to be feasible, we will work with the Coast Guard and the Corps of Engineers in the development and implementation of such a system.

Question 2

How often were oil spill drills conducted during FY 1988? Did these drills cover all facilities where pollution control equipment referenced in the approved OCS contingency plan is maintained?

Response:

During FY 1988, in the Gulf of Mexico, 82 operators attended 20 drills which were conducted using equipment from six of the nine Clean Gulf Associates (CGA) onshore bases. We require that each piece of equipment at each CGA base be deployed during a drill at least once every 4 years.

During FY 1988, 22 unannounced drills were conducted in the Pacific Region. These drills covered all offshore and principal onshore facilities where spill response equipment is maintained. Numerous other drills were organized and conducted by spill response cooperatives and industry groups.

The Alaska Region conducted 3 response drills during FY 1988. These drills involved the principal containment and cleanup equipment identified in the Oil Spill Contingency Plans. Other drills were conducted independently by OCS operators and cleanup cooperatives.

Question 9

Please describe how MMS's ability to impose civil penalties under the Outer Continental Shelf Lands Act has been "severely impaired" by court decision. Does the Administration plan to transmit legislation to remedy this problem.

Response:

The Outer Continental Shelf Lands Act (OCSLA) requires that civil penalties for failure to comply with regulations be assessed "after notice of such failure and expiration of any reasonable period for corrective action." Prior to the court's decision, civil penalties had been assessed without specific notice and a reasonable time for corrective action each time a violation was discovered. The court found that the process being used by MMS did not meet the requirements of the OCSLA. The MMS has explored means of improving the effectiveness of the civil penalty program within the limits of the OCSLA. To date, MMS has not been able to develop a satisfactory solution. The MMS will continue to seek a way to improve the effectiveness of the civil penalty program. This effort will include exploring any possible solution within the OCSLA as well as working with the U.S. Coast Guard to consider legislation which would aid both MMS and the Coast Guard in enforcing the provisions of the OCSLA.

On August 2, Representative George Miller introduced legislation (H.R. 3081) to remedy this situation. The amendment includes three major provisions:

- (1) It gives Interior the authority to immediately assess a civil penalty if the violation presents a serious threat to the environment or health and safety.
- (2) It doubles the amount of the civil penalty to not more than \$20,000 per violation, per day.
- (3) The Secretary of the Interior is required to increase the top civil penalty amount to account for inflation, at least once every 3 years.

ADDITIONAL QUESTIONS FOR THE RECORD FROM SENATOR JOHNSTON
TO THE DEPARTMENT OF THE INTERIOR ON S. AMENDMENT 229

Question 10

How many oil spills occurred as a result of oil and gas development and production on the OCS during the three most recent years for which statistics are available?

o Please provide the information for the Gulf of Mexico and the entire Nation.

Response:

<u>Gulf of Mexico OCS</u>				<u>Pacific OCS</u>			
<u>Number of Spills</u>		<u>Total Spill Volume (Bbls)</u>		<u>Number of Spills</u>		<u>Total Spill Volume (Bbls)</u>	
<u>1-50 Bbls</u>	<u>Over 50 Bbls</u>			<u>1-50 Bbls</u>	<u>Over 50 Bbls</u>		
1986	30	1	220	2	0	11	
1987	17	3	284	2	0	10	
1988	23	2	15,181	1	0	2	

Question 11

The June 1989 report indicates that the capacity to detect leaks from pipelines may be inadequate. What will Minerals Management Service (MMS) do to correct the problem?

Response:

Jurisdiction: In responding to this question, we must first consider important jurisdictional concerns. A 1976 Memorandum of Understanding with the Department of Transportation limits MMS pipeline jurisdiction to selective gathering lines. This restricts MMS from imposing new equipment and operational requirements on the major pipeline systems. Successful operation of these systems is dependent upon close coordination among platform and pipeline operators and is the responsibility of the Department of Transportation. The MMS is currently reviewing the Memorandum of Understanding. Changes may be necessary to assure improved pipeline monitoring procedures and better coordination between platform and pipeline operations.

Technology: The basic method for detecting pipeline leaks is by visual observation. Improved technologies are available, but they are costly and are not always fully reliable. These use monitoring techniques such as pressure and volume differentials and ultrasonics. Automated computer controls may be combined with these devices to aid in the decisionmaking and to sort good data from spurious data resulting from nonsteady flow. Automatic shut-down devices then can be used to secure the leaking lines. Combinations of these monitoring methods are being used offshore California.

Over the past decade, MMS has been conducting research to keep abreast of pipeline technology as the industry moves into deeper waters. For example, pipeline buckling, unstable conditions from ocean current scouring of the sediments, mud slides, and beachline erosion of frozen sediments have been studied. At present, MMS is reviewing the state of the art in pipeline leak detection technology. This review may result in technology recommendations which MMS will consider for application on new and existing pipelines.

Question 12:

Please provide your views on the mechanism contained in the legislation relating to the preparation of the list of priority wetland projects. What suggestions, if any, do you have for improving these provisions in the legislation?

Response:

The mechanism for developing priority wetland projects, as proposed in S. Amendment 229, would provide for the Secretary of the Interior to prepare a list of priority wetland projects, in conjunction with the Secretaries of the Army, Agriculture, and Commerce and the Administrator of EPA. The criteria contained in S. Amendment 229 would require the Secretary of the Interior to give special consideration to projects which would affect coastal areas which have particularly high values in the following three areas: (1) fish and wildlife habitat value; (2) flood or pollution control value; and (3) areas which are subject to erosion, conversion, or other degradation activities.

Although the Department cannot take a position on the legislation at this time, we would note that in order to develop any wetland priority projects, consideration should be given to wetland function, value, and acreage in the decisionmaking process.

Question 13

You mention several times in your statement that the wetlands account created in this bill is "off budget." However, spending from this account will indeed be included in the Federal budget. All we have tried to do in this amendment is to insure that the money which we are earmarking for coastal wetlands purposes gets spent for those purposes. What do you mean when you say the wetlands account is "off budget"?

Response:

Our only intent was to note that the wetlands account would be funded by new or additional taxes on oil and gas production and would be an "earmarked" fund. Funds so generated would not be paid into the General Treasury and would not be considered as revenue sources for other spending. You are correct that the wetlands account would have a budget, but that budget would be isolated from the general budget, with guaranteed funding from earmarked levies plus any additional funds (which would be on-budget by our definition). Congress might decide to add to the account. As a general policy, the Administration is not supportive of funding mechanisms for new programs that circumvent the annual budget and appropriations process by making receipts automatically available for specified purposes.

ADDITIONAL QUESTIONS FOR THE RECORD FROM SENATOR JOHNSTON
TO THE DEPARTMENT OF THE INTERIOR ON S. AMENDMENT 229

Question 14

On page 3 of your statement, you say that the fee levied on gas for the wetlands account is almost twice as high as the fee on oil for the oil spill account. However, you are ignoring the difference in the heat content of the two fuels and are really comparing apples and oranges.

If you use the EIA's conversion factor of 5.8 million btu's per barrel and compare the two fees, you will discover that while the gas figure is slightly higher than oil (approximately 17.6% higher), it is far less than "twice as high." Isn't this correct?

Response:

If both oil and gas were priced equivalently based on their respective heat contents, your comparison would be correct. However, while gas prices are roughly equated to dollars per million Btu's, there is no such equivalency in oil prices. Furthermore, the bill would levy on the per unit production volume, i.e., 10 cents per barrel of oil and 2 cents per thousand cubic feet of gas without regard to the heat content of either commodity.

The 10-cents-per-barrel levy on oil and the 2 cents/Mcf levy on gas would remain forever in effect regardless of price fluctuations. In calendar year 1988 for the OCS, 320,667,409 barrels of oil were valued at \$4,814,904,720 or \$15.02/barrel, while 4,309,874,827 Mcf's of gas were valued at \$7,946,040,609 or \$1.84/Mcf. At \$15.02 per barrel for oil, the 10 cents levy constitutes about 2/3 of 1 percent. At \$1.84 per Mcf, the 2 cents levy constitutes about 1.1 percent.

Question 15.

How does the Administration plan to implement its "no net loss of wetlands" policy for coastal wetlands in Louisiana? What does those words mean? What programs do you propose?

Response:

The Wetlands Working Group under the President's Domestic Policy Council has been established to formulate recommendations to meet the Administration's goal of "no net loss" of wetlands. Until the Wetlands Task Force addresses this question from a national perspective, it would be premature, at this time, to respond to how the Administration plans to address the coastal wetland losses in Louisiana.

There are a number of ongoing wetlands activities that the Department is conducting in Louisiana. For example, the Fish and Wildlife Service (FWS) is presently involved in Louisiana wetland issues in a number of different areas and fully intends to continue its efforts to protect, restore, and enhance wetlands in the State. The Service provides its findings and recommendations to the Corps of Engineers for activities requiring approval under the section 404 permit program. Approximately 800-1,000 section 10/404 permits are reviewed annually affecting approximately 30,000 acres per year. The FWS also provides planning assistance and recommendations to the Corps, under the authority of the Fish and Wildlife Coordination Act, in the planning and design of Federal water resource projects that affect wetland resources in Louisiana. The Caernarvon water diversion project, for example, is currently under construction by the Corps and is designed to protect 16,000 acres of marsh over the next 50 years. The FWS will continue to provide technical assistance to Federal and State agencies and private landowners to protect, restore, and enhance wetland resources in the State.

In 1989, at the request of the Congress, the U.S. Geological Survey and the FWS initiated a 5-year Louisiana wetlands loss study. We expect that the results of the study will provide a better understanding of the critical processes of wetland loss. Additionally, the Department is working with EPA and the Corps on developing a comprehensive wetlands plan for coastal Louisiana--the Louisiana Comprehensive Coastal Wetlands Study.

Question 16:

Please provide a description of impacts of the Exxon Valdez oil spill on units of the National Park System and the National Wildlife Refuge System.

Response:

The grounding and rupture of the Exxon Valdez in Prince William Sound released over 11 million gallons of North Slope crude oil. Oil has impacted western Prince William Sound, the southern coast of the Kenai Peninsula, the Alaska Peninsula coastline, and portions of the Kodiak Archipelago. The effects of the oil spill are both direct and indirect. Direct effects include oil deposition on beaches bordering DOI-managed lands and bird and mammal fatalities. Indirect effects include secondary impacts on predators, such as bears, eagles, and foxes, feeding on dead, oil-tainted animals and vegetation.

Approximately 117 nautical miles (miles) of oiled national wildlife refuge coastline has been identified for cleanup. This includes 64.9 miles (4.7 miles heavy, 12.9 miles moderate, 47.3 miles light) of Alaska Maritime Refuge, 13.8 miles (2 miles moderate, 11.8 miles light) of Becharof Refuge, and 38.5 miles (1.5 miles heavy, 2.5 miles moderate, 34.5 miles light) of Kodiak Refuge. Shoreline surveys are continuing to be conducted so these figures are expected to change.

Three National Park Service (NPS) areas have been affected. Kenai Fjords National Park, Katmai National Park and Preserve, and Aniakchak National Monument and Preserve. Exact estimates of the miles of beaches impacted in NPS areas are not available at this time; however, significant impacts to both beaches and animals have been documented at Katmai and Kenai Fjords National Park and Preserves while lesser impacts have been recorded at Aniakchak. The NPS is currently compiling this information and plans to compare post-impact assessments with pre-impact inventories.

An undetermined amount of shoreline (some associated with Interior land) has been impacted by oil but is not proposed by Exxon to be cleaned up. Interior and other Federal and State agencies are working with Exxon to get these deleted shoreline segments added to the cleanup list. The effects to wildlife associated with these lands are also considerable.

FWS records indicate that approximately 25,900 birds (including over 50 raptors) and 780 sea otters have died as a result of the oil spill (data as of June 14, 1989). Significant resources are applied to recovery efforts, including bird and otter cleanup. Seven otters have been released and biologists are tracking their movements to determine the safest and most effective release tactics to apply to the cleaned otters being held.

Question 17:

What role has the Department played in the assessment of natural resource damages as a result of the Exxon Valdez spill?

Response:

Since the Department originally developed the regulations for damage assessment, and the Secretary is also one of the four trustees for resources damaged by the spill, we have an important role in initiating, planning, and carrying out the damage assessment process. There are four trustees: the State of Alaska, the Departments of the Interior and Agriculture, and the National Oceanic and Atmospheric Administration (NOAA). These trustees are working closely together to plan and carry out a joint damage assessment. The Regional Director of the Fish and Wildlife Service represents the Secretary of the Interior on the Trustee Council in Alaska and thus represents the interests not only of the Fish and Wildlife Service but also of the National Park Service, Bureau of Indian Affairs, Bureau of Land Management, and Minerals Management Service. Many of the studies involved in the damage assessment are being planned and carried out jointly by personnel of the Fish and Wildlife Service and other Interior Bureaus with the State of Alaska, Forest Service, and NOAA.

Question 17:

What elements will be considered in determining natural resource damages?

Response:

Both lost use values (e.g., commercial, recreational, existence, and other values) and restoration costs are being considered in the overall damage assessment. Subjects to be considered could include: marine and anadromous fish; marine mammals; birds; shellfish and other marine invertebrates; lands managed by trustees; plants and microorganisms; surface and ground waters; submerged lands; terrestrial wildlife; and air. Uses to be considered include: habitat values; commercial, subsistence, personal use, and sport fisheries; aquaculture; subsistence and sport hunting and trapping; other subsistence, sport, and commercial uses; recreational uses; wilderness; scientific assessment and research uses (including archeological); mining; drinking water supply; marine transportation and culture uses; and existence values. More detail on the approaches to be used will be available when the formal assessment plan is released for public review and comment.

Some resources and services of particular concern to the Department of the Interior include Departmental lands and wildlife, including National Parks and National Wildlife Refuges; sea otters; birds, including seabirds, waterfowl, shorebirds, and raptors such as bald eagles and peregrine falcons; subsistence resources; wildlife and fish habitat; wilderness and recreational use; archeological sites; and research. Other trustees either share these concerns with the Department or have trusteeship for other resource and similar concerns for those resources.

Question 17:

What impact does the court's decision in *State of Ohio v. Department of the Interior*, No. 86-1529, Slip op. (D.C. Cir. July 14, 1989) have on the Department's approach?

Response:

The primary effect of the court's decision is to clarify that the measure of damages should be the cost of restoration plus interim lost use values, and that different kinds of use values may be added together rather than being exclusive. As written, the regulations require that an early choice be made between lost use values and restoration costs unless insufficient data are available to make that choice. To date, no choice has been made by the trustees as to which approach to use. Thus, no time will be lost as a result of the court decision, and the cost of restoration and interim lost use values could be added together to determine the measure of damages.

QUESTIONS FROM SENATOR MCCLURE

Question 1:

Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment No. 229 for the Wetlands Account.

Response:

Title I of Amendment No. 229, the Gulf of Mexico Oil Spill Prevention and Response Act, would amend the Outer Continental Shelf Lands Act to establish a Wetlands Protection, Restoration, and Enhancement Account within an Offshore Oil Pollution Compensation Fund. Monies for this account would be derived from a fee of 2 cents per thousand cubic feet of gas obtained from the Outer Continental Shelf (OCS). In addition, a ceiling of \$500 million would be placed on the Oil Pollution Account; all additional monies derived from the fee on oil above this ceiling would be deposited into the Wetlands Account. Revenues for the Wetlands Account would remain available until expended and could only be used for purposes established by this title. These include an annual listing of high priority conservation and restoration projects for coastal wetlands and implementations of these projects.

The Administration supports the intent of the wetlands provisions of this amendment but is not prepared to take a formal position on Senate Amendment 229 at this time. This amendment would allow for an automatic deposit of revenues from the new gas fee into the new wetlands account and would, therefore, be exempt from the review provided by the budgetary and appropriations process. We would note, however, that this approach represents a new source of revenue and therefore differs from the approach contained in a second Louisiana coastal wetlands bill. S. 630, the Louisiana Coastal Wetlands Conservation and Restorations Act, would earmark a percentage of OCS revenue for an indefinite period of time for wetlands restoration activities, thereby diverting a current source of revenue from the General Treasury; the Administration opposes this bill for several reasons.

Although we support the intent of these amendments, we question why OCS operators should be solely responsible for this revenue source given that OCS development is one of several factors which have contributed to the decline of Louisiana's coastal wetlands. A report prepared for the Minerals Management Service by the Center for Wetland Studies at Louisiana State University indicates that OCS development has accounted for 8-17 percent of all wetlands losses in Louisiana when both direct and indirect impacts are considered. Other significant causes of wetland loss have been identified and include natural factors such as erosion, subsidence and sea level rise as well as dredging, flood control, and land use and agricultural practices.

QUESTIONS FROM SENATOR MCCLURE

Question 2:

Please provide the Committee with your views on the expenditure of funds for wetlands as proposed by printed Amendment No. 229.

Response:

Amendment 229 proposes that the Secretary of the Interior, in conjunction with the Secretaries of Army, Agriculture, and Commerce, and the Administrator of EPA, develop a list of high priority coastal wetland projects. To assist in the preparation of the list, the Secretary of the Treasury will make funds from the Wetlands Account available to the Secretary of the Interior for allocation to Federal Agencies in order to prepare preliminary assessments; general or site-specific inventories; reconnaissance; engineering; or other studies; preliminary design work and other such studies as may be necessary to identify projects.

The Secretary of the Interior would be authorized to disburse funds to the Federal Agencies identified above in an amount not to exceed \$10 million annually. The Secretary of the Interior will determine the amount based upon what is deemed appropriate to carry out the purpose of this planning effort.

The Secretary of the Interior would be provided the necessary flexibility under this provision for allocating funds among the involved Federal Agencies. As with any transfer funding process, the Secretary of the Interior and the involved agencies would develop the appropriate transfer funding agreements to facilitate the allocation of funds.

QUESTIONS FROM SENATOR NICKLES

For S. Scott Sewell, Department of the Interior

Question

With respect to the third party factfinder study of certain leases off the coast of Louisiana required by the FY'89 Interior Appropriations Bill, does the Department of the Interior (DOI) have confidence that a sufficient number of leases were reviewed so that the study can serve as a valid basis for discussions regarding additional section 8(g) compensation or other policy changes? Should the scope of the study have included the entire Texas and Louisiana coast?

Response:

The Department believes that the Third Party Factfinder Boundary Study showed that drainage amounts are minor in comparison to payments being made to States under section 8(g). Increasing the scope of the study to include the entire Texas and Louisiana coast would not have changed that conclusion.

The Amendments to section 8(g) of the Outer Continental Shelf Lands Act (OCSLA) contained in the Comprehensive Omnibus Budget Reconciliation Act of 1985 were enacted to avoid the inevitable recurrence of future disputes over future 8(g) revenues. During the debate on this provision (131 Cong. Rec. S15,438 daily ed. Nov. 14, 1985), Senator McClure expressed the belief that "If the Senate desires that this issue be resolved it should be resolved with finality. The [Committee] recommendation does just that. It defines the account and provides a clear and unambiguous allocation of future revenues."

The courts also have decided the issues raised as a result of the disputed interpretation of section 8(g).

The OCSLA provides ample authority and responsibility for the Departments and Agencies of the Federal government and of affected States to enforce safety, environmental, and conservation laws and regulations to assure orderly development of oil and gas reservoirs which are cut by the boundary between Federal OCS and State jurisdiction in a mutually acceptable fashion.

Secretary Lujan is committed to assuring that DOI operates as a good neighbor in all its missions.

The DOI is working with representatives of the States of Alabama and Alaska together with Federal and State lessees to unitize the development and production operations associated with oil and gas reservoirs that are cut by the boundary between Federal OCS and State jurisdictions. The personnel of DOI are ready to work with the State of Louisiana and with Federal and State lessees in order to prevent waste, conserve the natural resources of the OCS, and protect correlative rights therein.

RB
BUDDY ROEMER
GOVERNOR



RAYMOND W. STEPHENS, JR.
SECRETARY

DEPARTMENT OF NATURAL RESOURCES

August 4, 1989

The Honorable J. Bennett Johnston, Chairman
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510-6150

Dear Senator Johnston:

Attached are answers to two questions from Senator James A. McClure regarding S. Amendment 229, the Gulf of Mexico oil spill prevention and response Act.

We appreciate the opportunity to furnish this information to the Committee.

Sincerely,

Raymond W. Stephens Jr.
Raymond W. Stephens Jr.

Enclosure

Response of Louisiana Natural Resources Secretary Raymond W. Stephens, Jr. to Senator James A. McClure's questions.

1. Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment No. 229 for the Wetlands Account.

It would appear that OCS revenues are an appropriate source of funding for the Wetlands Account, in view of the fact that the recent MMS study referenced in Dave Soileau's testimony concluded that OCS related impacts on coastal Louisiana have accounted for upwards of 20 percent of the total wetland loss. It may be, too, that an additional tax on OCS production (as proposed in Amendment #229) to fund the Wetlands Account would meet with less resistance than siphoning off revenues (as is proposed in S. 630) currently accruing to the national treasury. Of course, the bottom line in this is the amount of money that would be available to Louisiana on an annual basis to use in the implementation of coastal enhancement/restoration efforts. Our current thinking is that approximately \$100 million/year would be an appropriate goal.

2. Please provide the Committee with your views on the expenditures of funds for wetlands as proposed by Printed Amendment No. 229.

We strongly support your philosophy that we are rapidly approaching the point where we may have "studied the problem to death". Accordingly, your proposal to "... prepare a list of high priority projects ..." for implementation is extremely appropriate. Realistically, we may be faced with the need to do additional short-term research that would be structured to ensure that the results would provide immediate help in refining structural management capabilities. However, the esoteric studies of the past must end. It is our current belief that we will likely learn more by implementing a number of projects and by closely monitoring and adjusting their operation to ensure optimum benefits to the overall fish and wildlife resource base.



The Conservation Foundation

August 4, 1989

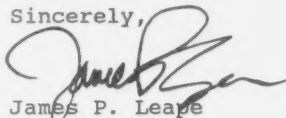
The Honorable J. Bennett Johnston
Chairman
Committee on Energy and Natural Resources
SD-364 Dirksen Senate Office Bldg.
Washington, D.C. 20510-6150

Dear Senator Johnston:

Enclosed are the responses of The Conservation Foundation to additional questions by Senator James McClure for the record relating to the July 24, 1989 legislative hearing on S. Amendment 229, the Gulf of Mexico Oil Spill Prevention and Response Act.

Thank you for the opportunity to provide you with our views on the proposed legislation.

Sincerely,



James P. Leape
Vice President

Encl.

Responses of The Conservation Foundation to Questions by Senator James A. McClure

1. Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment No. 229 for the Wetlands Account.

The Conservation Foundation commends the Committee for addressing the difficult issue of funding. We believe your mechanism is creative and sensible. We realize that recommendations for new expenditures or revenues should be made judiciously, however, this measure is clearly justified by the serious and ongoing loss of coastal wetlands.

The National Wetlands Policy Forum, which The Conservation Foundation convened and facilitated, addressed financing of wetlands protection and management. The Wetlands Forum called for increased funding for wetlands conservation so as to implement its recommendations. The Forum proposed, among other things, that "federal and state governments explore opportunities for increasing revenue from sources tied to activities that use, degrade or destroy wetlands areas." (Forum Report, p. 66). The Forum did not specifically recommend increases in revenues collected from oil and gas leases.

2. Please provide the Committee with your views on the expenditures of funds for wetlands as proposed by Printed Amendment No. 229.

We support the basic thrust of the bill -- providing increased revenues for coastal wetlands protection and restoration. Clearly there is an immediate need for the projects called for in the legislation. At the same time, as we stated in our testimony, we are concerned about the criteria for distributing the funds collected under the bill. The proviso that funds be available for projects within a state in proportion to the amount of federal Outer Continental Shelf oil and gas production off the coast of that state effectively denies funding to most coastal states. This proviso should be removed. The remaining criterion -- that funds be allocated on the basis of a priority list of preservation and restoration projects -- is a sensible one and will result in an objective assessment of the most critical coastal wetlands protection needs, many of which are in Louisiana.



Aug 1 1989

National Audubon Society

cc: Howard EC

NATIONAL CAPITAL OFFICE

801 PENNSYLVANIA AVENUE, S.E.

WASHINGTON, D.C. 20003

(202) 547-9009

July 31, 1989

Honorable J. Bennett Johnston
Chairman, Committee on Energy and Natural Resources
United States Senate
Washington D.C., 20510-6150

Dear Mr. Chairman,

Thank you for providing me with the opportunity to answer the additional questions posed by Senator McClure for the record of the Committee's hearing on Sen. Amendment No. 229, the Gulf of Mexico Oil Spill Prevention and Response Act.

"1. Please provide... your views on the funding mechanism proposed... for the Wetlands Account."

As stated in my written testimony at p.4 ff., the National Audubon Society agrees with the need for a secure funding mechanism for wetlands acquisition, protection, and restoration, and supports the concept of funding such a program from the receipts of a fee on OCS production. We also suggested some clarification of the statutory language governing the guidelines under which wetlands projects would be ranked for the purposes of program activities. In particular, we believe that a single, unified set of guidelines, based on the relative importance and urgency of the project, and its likelihood of success, would obviate the ambiguity and confusion which might arise from the multiple ranking principles currently in the proposed legislation.

"2. Please provide... your views on the expenditures of funds for wetlands as proposed by Printed Amendment No. 229."

The national importance of protecting our remaining wetlands base, and of establishing a deliberate and systematic program to restore damaged wetlands, cannot be overstated. Wetlands provide essential habitat for many plant and animal species, storm and flood buffers for agricultural and residential areas, groundwater recharge and purification zones, and other important values.

Coastal wetlands, in particular, may require significant expenditures for protection and restoration, and for the correction of previous channelization projects and other development which has led to their endangerment. Similar expenditures may be required, of course, to restore the wetlands base in key inland areas, such as the central valley of California, although these requirements are not addressed in the proposed amendment. As stated above, we support the innovative funding mechanism for wetlands protection contained in the proposed amendment, and believe the Congress should consider similar funding options for inland wetlands as well, where appropriate.

Sincerely,

Brooks B. Yeager
Vice President for Government Relations

Recycled Paper

AUG 07 1989

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005
202-682-8100



Charles J. DiBona
President

August 7, 1989

The Honorable
J. Bennett Johnston
Chairman
Committee on Energy
and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Enclosed are the responses of the American Petroleum Institute to the questions submitted to us after the July 24th hearing on Senate Amendment 229, the Gulf of Mexico Oil Spill Prevention and Response Act. We appreciate the opportunity to provide our comments on this important matter.

Sincerely,

Enclosure

Following are the American Petroleum Institute's (API) responses to Senator McClure's questions on wetlands provisions in Senate Amendment 229.

1. **Please provide the Committee with your views on the funding mechanism proposed by Printed Amendment 229 for the Wetlands Account.**

API believes that an additional tax on Outer Continental Shelf (OCS) activity to fund wetlands restoration is inappropriate because there is no link between OCS activity and the vast majority of wetlands deterioration. Most wetlands loss in the Mississippi Delta region occurs because of natural causes and the leveeing of the Mississippi River for flood control. Since most wetland values accrue to the public, an equitable solution would be to fund wetlands restoration and preservation projects out of general revenues or existing funds, such as the Land and Water Conservation Fund.

2. **Please provide the Committee with your views on the expenditures of funds for wetlands as proposed by Printed Amendment 229.**

While the amount of wetlands lost on the Louisiana coast is great, the amendment does not provide any specific project proposals. Therefore API cannot comment on their efficacy.

3. **Do you think that Congress should approach the issue case-by-case, as envisioned by printed amendments No. 100 and 229, or should there instead be a comprehensive bill such as the ones proposed by the Administration and Senator Mitchell?**

The petroleum industry believes that the serious problems posed by the catastrophic oil spills like the one in Alaska warrant a comprehensive national plan for improving spill liability and compensation. Any program must be broader than the site-specific approach taken in many sections of Senate Amendments 100 and 229.

For 15 years, the petroleum industry has strongly advocated a comprehensive federal approach to providing the financial resources and response capabilities needed to deal immediately with any oil spill from any source in any navigable water. The recent oil spills in Alaska, Rhode Island, Pennsylvania, and Texas underscore the need to move ahead with such legislation without delay.

APPENDIX II

Additional Material Submitted for the Record

TESTIMONY OF

PHILIP C. ACKERMAN, PRESIDENT
SENECA RESOURCES CORPORATION

SUBMITTED TO THE
SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

IN SUPPORT OF

TITLE VI

OF

THE GULF OF MEXICO OIL SPILL PREVENTION AND RESPONSE ACT

August 11, 1989

Mr. Chairman and distinguished members of the Committee, my name is Philip C. Ackerman. I am President of Seneca Resources Corporation, which is an oil and gas exploration and production subsidiary of National Fuel Gas Company of Buffalo, New York. We are submitting this testimony in support of Title VI of Senate Amendment No. 229, The Gulf of Mexico Oil Spill Prevention and Response Act.

Seneca Resources Corporation, which is headquartered in Houston, Texas, owns oil and gas production interests with 11.5 million barrels of proven crude oil reserves and 46.5 billion cubic feet of proven natural gas reserves as of September 30, 1988. We own substantial interests in three state leases on the Louisiana Outer Continental Shelf in a gas field known as West Delta Field. We have had an unfortunate experience in the West Delta Field that, in large part, has given rise to Title VI of this legislation.

Our problem is that, while approximately 85 percent of the original natural gas resources of the West Delta Field were located under the State of Louisiana OCS waters and 15 percent of the natural gas reserves were located under the Federal OCS waters, under current MMS policy we will not be able to recover our fair share of the reserves. Despite consistent efforts by the State of Louisiana and Seneca since 1985 to obtain the cooperation of the Federal government in developing this shared resource, the Department of the Interior has refused to cooperate and has allowed

the Federal lessee to drain significantly more than 15 percent of the natural gas in the West Delta Field. In fact, a March 21, 1989 Independent Third Party Fact Finder Report to the Secretary of the Interior, the Governor of Louisiana and this Committee found that natural gas valued at between \$23.4 and \$26.6 million had been drained from the state portion of the West Delta Field by the Federal lessee through September 1, 1988. A copy of the West Delta Field portion of the Fact Finder Report is attached as Attachment 1.

Our concerns with our West Delta Field experience are twofold. First, obviously, the loss of a significant portion of the State lessees' share of the natural gas resources from the state portion of West Delta Field, calculated at approximately \$15.5 million by the Independent Fact Finder, has had a direct, negative impact on the economics of our company and our West Delta Field project. Second, the inappropriate policy position of the Department of the Interior that gave rise to the West Delta Field problem will lead to the drilling of unnecessary wells on the Outer Continental Shelf, the occurrence of unnecessary environmental risks, the devaluation of state and, perhaps, Federal leases on the portion of the OCS near the Federal/State boundary and, finally, will lead to an increased number of disputes on the Outer Continental Shelf that cannot possibly be in the national interest. Title VI of this legislation reverses the present policy of

the Department in favor of the historic policy of cooperation between the State and Federal governments in the application of modern conservation practices on the Outer Continental Shelf and provides an effective mechanism for forcing cooperation in those instances where either the Department or the State is reluctant to cooperate. We would ask that the Committee consider adding to Title VI provisions that compensate the State and its lessees, in accordance with the Fact Finder Report, for the drainage that occurred at West Delta.

In the remainder of my testimony, I would like to discuss the Department's current policy and review the chronological history of the West Delta Dispute.

The Outer Continental Shelf Lands Act establishes the Secretary of the Interior as the Federal official responsible for the orderly development of the oil and gas reserves in the Federal portion of the OCS. Section 5 of the Act provides that the Secretary shall apply modern conservation practices on the Federal OCS, including specifically rules "for the prevention of waste and conservation of the natural resources of the outer continental shelf, and for the protection of correlative rights therein." In addition, Section 5 provides that "in the enforcement of safety, environmental and conservation laws and regulations," the Secretary shall "cooperate with the ... affected states."

Both the words of the Act and the intent of the OCS Lands Act is to develop outer continental shelf oil and gas resources in a fashion that minimizes the wells that must be drilled and minimizes the potential for environmental damage. This policy, which is also the policy of the State of Louisiana through its conservation statute, is a reaction to the excesses that occurred in our nation under the outmoded "law of capture." Under the "law of capture," an oil or gas resource is only owned when it is delivered to the surface. Thus, in a race for ownership, oil and gas drillers in the early part of this century drilled wells "foot to foot" in an effort to reduce as much resource as possible to possession and ownership as quickly as possible. The result was damage to the underground reservoirs, well blow-outs, oil stored in earthen impoundments while tanks were being built, and unsightly forests of oil rigs in some areas of our country.

In adopting a policy of refusing to cooperate with the coastal states in the development of jointly held oil and gas resources, the Department of the Interior is encouraging a return to the excesses of the "law of capture." If the Department refuses to cooperate with the states and no legal regime exists for achieving cooperative development where appropriate, then those states and companies being drained are left with unacceptable choices. Those being drained must either accept the drainage in silence or they must resort to "self-help." "Self-help" in this context means drilling

unnecessary wells in an attempt to offset the drainage and prevent the loss of resource. Drilling unnecessary wells is not a practice that should be tolerated by Federal policy -- and certainly should not be encouraged by Federal policy. Title VI of this legislation removes the current Department policy which encourages the drilling of unnecessary wells in situations where a State and the Federal government share ownership of an oil and gas resource.

Finally, Mr. Chairman, I would like to review the chronology of the West Delta Field dispute. The state leases in the West Delta Field, SL10087, 10088 and 10187, were issued in 1982. Drilling in 1983 discovered the gas field. Meanwhile, in a 1983 lease sale, the Federal government had issued Federal leases numbered OCS-G-5668 and OCS-G-5669 covering the southern portion of the field. In 1984, after determining that the West Delta gas field extended under the Federal leases, the state lessees approached both the Minerals Management Service and the Federal lessee in an attempt to obtain a voluntary agreement for the cooperative development of the jointly held property. These efforts were unsuccessful throughout 1985 and 1986 and, indeed, have continued to be unsuccessful.

On April 17, 1986, Governor Edwin Edwards of Louisiana notified the Department of the Interior that Louisiana believed that common reservoirs underlay the State/Federal boundary in the West Delta Field and requested cooperation in the development of the field. In response to an application filed by Governor Edwards, the Louisiana Office of Conservation convened a hearing on October 27, 1986 to determine whether the gas reserves of West Delta extended into the Federal lease areas. The Louisiana Office of Conservation released its conclusions on November 18, 1986. The Office found that the three reservoirs in question were common to both the Federal and the State leases and that drainage of the State resources was occurring from the Federal leases. The Conservation Office found that unnecessary wells had been drilled and that to prevent waste and the drilling of further unnecessary wells, unitization of the Federal and State leases was necessary.

The MMS, however, failed to take any steps to prevent drainage of natural gas resources from State lands in the West Delta Field. On April 25, 1986, after discovering that the Federal lessee was installing compressor equipment on its wells which could accelerate the rate of drainage, the State of Louisiana and its lessees filed suit in Federal district court against the United States, the Secretary of the Interior, the Director of the MMS, and the Federal lessee in the West Delta Field. The State sought declaratory and injunctive relief, directing the Secretary of the Interior to

unitize the common reservoirs underlying the State and Federal lands. The Federal government strenuously objected to forced unitization ^{1/} and the lawsuit was unsuccessful.

While being deposed in the lawsuit, Assistant Secretary for Land and Minerals Management, J. Steven Griles, stated that the Department of the Interior would consider approval of the unitization of Federal and State lands in the 8(g) zone ^{2/} only in the interest of conservation or for the prevention of waste. And, further, that any compensation for alleged drainage of oil or gas from State lands was provided for in Section 8(g)(2) of the OCS Lands Act. He noted that this policy was not yet the Department's official position, but that it would become so with the concurrence of the Secretary. The Secretary of the Interior gave his concurrence and on May 30, 1985, an internal memorandum was issued by the Department indicating that this new policy would apply to all jointly held reservoirs in the 8(g) zone. A copy of this policy statement is

^{1/} At the same time the Department was objecting to the forced unitization of West Delta, the Department was forcing the unitization of two Federal leases on the Louisiana OCS to protect one federal lessee from drainage by the other. Clark Oil Production v. Hodel, 667 F.Supp. 281 (E.D. La. 1987).

^{2/} The 8(g) zone is the first three miles of the Federal OCS.

attached as Attachment 2. Interestingly, the Chairman of this Committee wrote the Secretary of the Interior on May 19, 1986 encouraging the Secretary to adopt a policy of cooperation with the coastal states in order that the parties might "amicably resolve the current situation." A copy of this letter is attached as Attachment 3. Unfortunately, this policy statement means, at a minimum, that there presently exists no mechanism for the Federal government to develop jointly held oil and gas resources cooperatively with Alaska, California, Texas, Louisiana, Mississippi, Alabama and Florida, all of which received 8(g) funds.

Shortly thereafter, on June 23, 1986, the MMS initiated an administrative proceeding to determine whether unitization of the West Delta Field would be appropriate. The agency's finding was announced by letter to the Governor of Louisiana dated May 1, 1987, in which Assistant Secretary Steven Griles indicated (1) that while some of the reservoirs are competitive, no waste or unnecessary drilling had occurred, or would occur; and (2) that unitization of the West Delta Field was unnecessary for the conservation of the natural resources of the OCS. The letter added that, in the view of the MMS, if drainage did occur, the State of Louisiana would be compensated by the revenues shared under Section 8(g)(2) of the OCS Lands Act. This section, of course, does not provide revenues for the state lessees, such as ourselves, who suffered drainage in this case. Additionally, the Assistant Secretary's conclusions do not address the

problem that the State lessees would drill unnecessary wells in a race to capture their share of the reserves that would otherwise be drained by the Federal lessee.

Throughout the period since the Department issued its decision on May 1, 1987, the Governor of Louisiana, the Louisiana delegation and the state lessees have worked constantly to obtain the cooperative development of the West Delta Field. Throughout this period of time, drainage of the State and its lessees has continued to occur. All efforts to achieve a compromise with the Department and its lessee have failed.

The Appropriations Act for the Department of the Interior and Related Agencies for FY 1989 contained a provision directing the Secretary of the Interior to appoint an independent fact finder to determine if and to what extent drainage had occurred in the West Delta Field and, in fact, all along the seaward boundary of Louisiana and the Federal OCS. As indicated previously, the March 21, 1989 fact finder report found the facts to be essentially consistent with the findings that were made by the Louisiana Office of Conservation on November 18, 1986. The Department, however, has continued to refuse to acknowledge any responsibility to develop cooperatively the West Delta Field.

Mr. Chairman, thank you for the opportunity to provide this testimony to the Committee. I would also like to thank you for the strong leadership you have exhibited on this important and difficult issue.



RYDER SCOTT COMPANY
PETROLEUM ENGINEERS

1100 MILAM BUILDING SUITE 3200 HOUSTON, TEXAS 77002 TELEPHONE (713) 651-0840

Attachment 1

March 21, 1989

U. S. Department of Interior
Minerals Management Service
Gulf of Mexico OCS Region
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123

State of Louisiana
Department of Natural Resources
Office of the Secretary
625 North Fourth Street
Baton Rouge, Louisiana 70802

Gentlemen:

At your request we have prepared a geological and engineering study of certain fields which share a common boundary between the United States OCS (MMS) leases and the State of Louisiana (State) leases as of September 1, 1988. The primary purpose of this study was to determine whether drainage of hydrocarbons has occurred between either MMS or State leases during the time period starting April 7, 1986, to September 1, 1988, referred to herein as Critical Time Period ("CTP"), the quantity and direction of such drainage and the net dollar impact to certain various entities which are party to the subject leases. The results of this study are summarized as follows:

Summary of Drainage Study
Certain Properties Sharing Common Boundaries
Between MMS and State of Louisiana Leases
As of September 1, 1988

	MMS OCS-G Leases	Louisiana State Leases
<u>Composite Drainage Volume</u>		
Gas - MCF	8,094,311	21,149,737
Oil/Condensate - Barrels	205,085	953,889
<u>Net Dollar Impact Due to Drainage from Leases</u>		
Lessor	\$ 2,969,704.71	\$12,999,862.31
Lessee	\$14,848,382.14	\$31,455,421.92

The "Composite Drainage Volume" represents the 8/8ths volume of hydrocarbon drainage which occurred from the MMS and State leases. The "Net Dollar Impact Due to Drainage from Leases" represents the composite dollar impact to the MMS, MMS lessees, State and State lessees resulting from the "Composite Drainage Volume" which occurred during the CTP for the various reservoirs experiencing drainage. This dollar impact considers ownership interests, product prices and severance taxes. Production costs are not included in these values due to the unavailability of adequate data.

U. S. Department of Interior
State of Louisiana
March 21, 1989
Page 2

In summary there has been a composite net drainage of 13,055,426 MCF of gas and 748,804 barrels of oil/condensate drained from the State leases to the MMS leases during the CTP. The net dollar impact to the various interest owners resulting from this drainage is as follows:

	<u>Lessor</u>	<u>Lessee</u>
MMS Leases	(\$10,030,157.60)	(\$16,607,039.78)
State Leases	\$10,030,157.60	\$16,607,039.78

The numbers in parentheses represent the amount payable and the positive numbers represent the amount receivable.

In several instances drainage from one lease to another resulted in the draining lease receiving a greater dollar value for the drained volume than the drained lease would have received if it had produced and sold the drained volume. This is caused by a combination of variations in royalty, product price and severance tax obligation. It is the opinion of the MMS that adjustments should be made in the net dollar impact to the lessors due to this "windfall" received from draining an offset lease.

If this approach is considered, the net resulting obligation of the MMS for the composite drainage from the State leases is \$8,540,111.05. This is shown on Summary Table A as the total "Value of Drainage Volume to Lessor" under the column "Total State of Louisiana Leases". This number is the net impact of losses incurred by the State (\$10,030,157.60) balanced against the gains received by the State (\$1,490,046.55) from draining the MMS leases in those certain instances where this occurs. Thus, it is the net impact of drainage both "to and from" the State leases rather than the net impact of drainage "from" all of the leases. This consideration prevents the State from retaining a "windfall" by virtue of having drained offset MMS leases. The result of this analysis in net dollar impact to the MMS and State as lessors is as follows:

MMS Leases	(\$8,540,111.05)
State Leases	\$8,540,111.05

The numbers in parentheses represent the amount payable and the positive numbers represent the amount receivable.

Also included in this report are detailed tabulations for each subject reservoir, by area, presenting the data and calculations utilized to reach the summary conclusions. Sections of the report discuss the general scope of the project, definitions, the technical approach, the data source and reliability, and provide specific information on each area and reservoir.

We appreciate the opportunity to be of service on this project and respectfully submit this report.

Very truly yours,

RYDER SCOTT COMPANY
PETROLEUM ENGINEERS

Harry J. Gaston, Jr.

Harry J. Gaston, Jr., P.E.
Executive Vice President

HJC/sw

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INTRODUCTION

The purpose of this study was to determine if drainage has occurred in hydrocarbon productive reservoirs across the mineral ownership boundary between the State of Louisiana (State) and the U.S. Department of Interior - Minerals Management Service (MMS) from April 7, 1986 to September 1, 1988. In the event that drainage had occurred, the direction of such drainage and the economic impact to the United States, United States lessees, the State of Louisiana, and the State of Louisiana lessees was to be determined. The determination of these items necessitated the interpretation of all geological and engineering data in order to prepare net productive acre-feet isopach maps which were utilized to establish equity between the United States and the State of Louisiana for each subject reservoir. The equity percentages were compared to the actual production between the subject dates to quantify the volume and direction of drainage. Price and cost data were applied to establish the net dollar impact of any established drainage.

GENERAL SCOPE OF WORK

The State and MMS had agreed that the following areas may have potential common reservoirs and that this drainage study was to be made on these areas:

Breton Sound Block 33 Complex
Main Pass Blocks 6/7 Complex
Main Pass Blocks 72/74 Complex
Main Pass Blocks 77/131 Complex
Sabine Pass Block 3 Complex
West Delta Blocks 17/18 Complex

It was the specific objective of this study to determine the following:

- (1) whether drainage of either United States or State hydrocarbons has occurred during the time period starting April 7, 1986, and ending on the date the latest data is available;
- (2) the areas or reservoirs from which the drainage occurred;
- (3) the quantity of recoverable hydrocarbons, determined on a volumetric basis, originally in place within such areas or reservoirs prior to any production therefrom;
- (4) the respective percentages of original recoverable hydrocarbons within the Federal and State portions of such areas or reservoirs;
- (5) the total accumulated volume of any net drainage from each area or reservoir, including the value thereof (together with a description of the method for determining such value) and all production costs incurred during that period;
- (6) the net dollar impact to the U.S., United States lessees, the State of Louisiana, and the State of Louisiana lessees that has resulted from any such drainage from each area or reservoir;

Page 2

- (7) the proper allocation of production from each field from all time periods starting April 7, 1986; and
- (8) the proper prospective allocation of production from the fields involved.

These items were determined for those fields or areas specified by the MMS and State as previously listed on those reservoirs identified by Ryder Scott Company as having experienced drainage across the boundary between the MMS and State during the periods between April 7, 1986 and September 1, 1988, hereafter referred to as the "Critical Time Period" (CTP).

DEFINITIONS

In the presentation of results presented herein, certain terms are used which may not be universally understood. The following explanation of these terms is presented to clarify their usage.

- (1) CTP - Critical Time Period is the period from April 7, 1986 to September 1, 1988.
- (2) Proportion of Original Recoverable In Place Reserves ("Equity Factor") - The proportion of the total reservoir recoverable reserves originally in place in a reservoir underlying each lease prior to any production from the reservoir, with the total "proportion" for all leases within a reservoir being equal to 100 percent.
- (3) Proper Proportion of Cumulative Production During CTP ("Equity Production") - Total reservoir production which occurred during the CTP multiplied by the lease's respective percentage of the reservoir's total original recoverable hydrocarbons in place ("Equity Factor") prior to any production.
- (4) Drainage Volume - The difference between the "Equity Production" and the actual production, for each lease, during the CTP. Negative values indicated drainage away from a lease and positive values indicate drainage onto a lease. The net drainage volume for any given reservoir is zero.
- (5) Proved Reservoir Volume - The hydrocarbon productive mapped volume in acre-feet required to correspond to the recoverable proved reserves originally in place.
- (6) Proved Reserves - Those reserves which conform to the definitions as set forth in the Securities and Exchange Commission's Regulation S-X Part 210.4-10(a) as clarified by the Commission's Staff Accounting Bulletin No. 40, with the following exception:

- (a) In those cases where the ultimate recoverable proved reserves are based on the performance method and the corresponding mapped volume of the proved reserves does not reflect the acre-feet required for this performance estimate, the mapped volume was adjusted until a reasonable match, in the opinion of Ryder Scott Company, was obtained. The adjusted isopachous map volume was used for determining the equity percentages for each lease.
- (7) Total Reservoir Production - The composite production of oil/condensate and gas from each well which has produced from a given reservoir, with said production volumes being those supplied by the MMS and the State for their respective leases.
- (8) Actual Lease Production - The composite production of oil/condensate and gas from each well on a given lease which has produced from a given reservoir, with said production volumes being those supplied by the MMS and the State on their respective leases.
- (9) Product Prices - The gross price received by the MMS and the State for their share of hydrocarbons "produced" from a particular lease each month during the CTP, derived from monthly income statements, by lease, as furnished by the MMS and the State, with adjustments as required to compensate for anomalies in data, shrinkage losses and liquid natural gas sales.
- (10) Lessee/Lessor - The percentage ownership, as provided by the MMS and the State, of the total working interests plus carved out overrides (Lessee) and the total basic royalty interest (Lessor).
- (11) Severance Taxes - The tax on hydrocarbon production collected by the State and paid only on state leases by the lessees of those leases. This is not a consideration on MMS leases.
- (12) Operating Costs Differential - The net effect on the cost of producing hydrocarbons from one lease which should have been produced from another. This consideration is not included in the study due to the lack of adequate data for its consideration.
- (13) Value of Drainage Volume - The "Drainage Volume" multiplied by the "Product Prices" adjusted for "Ownership", "Severance Taxes" collected or not collected and "Operating Cost Differential" on a monthly basis and accumulated for the CTP. Negative values indicate drainage value suffered by a lease and positive values indicate drainage value gained by a lease. The net dollar impact due to drainage which has occurred in a given reservoir will not be zero due to variations in ownership, product prices and severance taxes between leases.
- (14) Proper Allocation of Future Production - That percentage of total future remaining recoverable reserves for a reservoir which, in the opinion of Ryder Scott Company, should be assigned to each lease or to unleased lands.

TECHNICAL APPROACH

The volumetric method was utilized in the analysis of each reservoir. This approach was tempered by performance methods where necessary to reach reasonable and realistic conclusions.

The volumetric method involves determining the net pay thickness in each well from log and core data. These log and core data were analyzed by petrophysicists and geologists to determine the reservoir parameters and fluid saturations. These were in turn used to determine the original hydrocarbons in place. Well logs, core analyses and test/production data were used to determine fluid levels to establish productive limits. Correlation of well logs were made to assist in the preparation of structure maps which in turn were used to assist in the development of net pay isopachous maps. These isopachous maps were planimeted to determine the acre-feet of reservoir volume containing proved productive hydrocarbons under each lease.

The performance method was utilized to determine production decline trends, pressure-production relationships and water production trends to confirm the results obtained by the volumetric method and to assist in delineating which wells are in common reservoirs. Certain adjustments were made to the original isopachous maps in some instances to obtain the most realistic match between the two methods.

Recovery factors were applied to the hydrocarbons originally in place in each reservoir to determine the original "recoverable" hydrocarbons in place for the reservoir and for each lease. The same recovery efficiency was used for each lease within a reservoir regardless of recovery drive mechanism, structural position, development density, curtailment or any other factor which could affect the true ultimate recovery for a particular lease.

In determining the proper allocation of future production, no consideration was given to past drainage. Initial equity was considered in those instances in which no significant changes had occurred in original fluid contacts. However, in some instances future reservoir performance as affected by prior or future changes in fluid contacts was considered in determining the "proper" allocation of future production.

DATA

It was the responsibility of the MMS and the State to furnish the necessary geological, engineering, ownership and economic data on their respective leases.

Much of the data on the MMS leases was furnished by the MMS with certain geological and engineering information supplemented by data from the lease operators. However, essentially all of the geological and engineering data on the State leases was supplied by the operators of these leases. In most cases interpretative data was furnished by the operators and/or the MMS on both the MMS and State lease. However, certain operators of State leases supplied only the basic raw data on their leases.

It is the opinion of Ryder Scott Company that sufficient data were available to thoroughly analyze each of the areas pertinent to this study and reach reasonable conclusions, with the exception of the operating costs data which was previously discussed. It is also our opinion that the lack of this cost data does not significantly affect the results presented, since variations of operating costs within a field between different operators are generally minimal. All data received and utilized in this study were accepted as correct without further verification.

WEST DELTA BLOCKS 17/18 COMPLEX
OFFSHORE LOUISIANAINTRODUCTION

This field is located approximately 25 miles southwest of New Orleans, Louisiana in a water depth of 50 feet. Three State leases (State Leases 10087, 10088, and 10187) operated by Cashco Oil Company and two MMS leases (OCS-G-5668 and OCS-G-5669) are included on these blocks. Cashco also operates the wells in OCS-G-5668 and Samadan Oil Corporation operates the wells in OCS-G-5669. The royalty percentage for all the State leases is 26.0 percent compared to 16.667 percent for the MMS leases.

The field was discovered in April 1983 with the drilling of the Seneca-Cashco - State Lease 10088 No. 1. Field development resulted in drilling 10 additional wells on the State leases and 9 wells on the MMS leases. Production from the MMS and State leases began during August 1985, with peak production rates being achieved in 1986. As of August 31, 1988, the cumulative production from 8 MMS lease completions is 51,773 MMCF of gas and 637,700 barrels of condensate. Similarly, the 11 State lease completions have produced 72,477 MMCF of gas and 1,352,300 barrels of condensate. Currently, there are 6 MMS lease wells producing at the rate of 460 MMCF of gas per month as compared to 6 State lease wells which are producing at the rate of 514 MMCF of gas per month.

GEOLOGY

The field produces from non-associated gas reservoirs which are Upper Miocene in age and range in depth from 14,900 feet subsea to 15,700 feet subsea. The trapping mechanism is a combination of structural and stratigraphic. The structural component is fault closure against an east-west trending down-to-the-south fault system with the formation dipping to the north at approximately 10°. Stratigraphically, the sands are truncated by an unconformity. The structure has apparently been tilted to the east so that the shallow pay sands are eroded eastward of the deeper sands. This unconformity has "buried" several faults which are inferred to exist due to water-level differences within some formations. The magnitude and orientation of these "inferred" faults is uncertain, but they are believed to be relatively minor faults.

RESERVOIRSUnconformity Sand and Yellow (K-4A) Sand

These two sands, located at an average depth of 15,250 feet subsea, are present only on the eastern side of the field. These sands appear to merge together in the area of the State Lease 10187 No. 1.

Based on bottom hole pressure data, the State Lease 10187 No. 1, which is perforated in both the Unconformity and Yellow (K-4A) Sands is in pressure communication with the State Lease 10187 No. 2, which is perforated in the Unconformity Sand only.

Since the Unconformity Sand is only present in the state lease wells and the Yellow (K-4A) Sand appears to have limited areal extent separated from the MMS lease wells by a low permeability zone, these sands are considered to be non-competitive between the State and MMS wells and are therefore not included in this report.

Page 2

Blue (K-4B) Sand

This reservoir is located at an average depth of 15,300 feet subsea. It contains an upper and lower member on the eastern side of the field which merge together in the center of the field. Due to erosion, the upper member is not present on the western side of the field. Some faulting is present in this reservoir, but it does not appear to be effective in preventing communication among the various fault blocks.

Based on bottom hole pressure data, the State and MMS lease wells on the western side of the field are in pressure communication with each other. Also the State and MMS wells in the center of the field indicate good pressure communication with each other. Even though the pressures for these two areas do not match historically, communication between these two areas is suspected because (1) measured pressures in the center of the field (State Lease 10088 No. 5) indicated that drainage was occurring prior to the time of first production from this area of the field, and (2) the wells on the western end of the field have overproduced the mapped volume of the reservoir that has been partially eroded, thereby indicating drainage of a larger area (i.e., the center of the field where the entire sand is present).

The eastern end of the field, from which the State Lease 10187 No. 1 produced, is also suspected to be in communication with the other two areas even though the pressures are higher in this well compared to the other areas. These higher pressures are due to the presence of an active aquifer which eventually caused this well to water out. This communication with the other areas is suspected because the State Lease 10187 No. 1 overproduced the volume of gas which can be mapped in this fault block.

Based on a composite plot of the bottom hole pressure data versus cumulative production for all the wells in this zone and an analysis of the production decline data, Ryder Scott Company estimates the original recoverable gas reserves to be 35,619,000 MCF, of which 45,806,000 MCF was produced during the "Critical Time Period" (CTP). Of this production, we have estimated that the State leases drained 3,059,436 MCF from the MMS leases.

Red (K-5A) Sand

This reservoir is located at an average depth of 15,400 feet subsea and is a relatively consistent sand member across the field. Minor faults appear to exist throughout the zone, particularly in the southern end of the field on the MMS leases. However, pressure and performance data indicate that all but two of the fault blocks are in very good pressure communication. These two separate minor reservoirs are positioned on the State and MMS leases such that drainage is not a consideration. Furthermore, the complex fault system appears to have caused juxtaposition of certain fault blocks in a different correlative sand (Brown (K-5B) Sand) with the Red (K-5A) Sand in the area of the OCS-G-5649 Lease. This juxtaposition is confirmed by pressure data and geological correlations of the well logs.

Based on a composite bottom hole pressure data plot for the six wells in communication and an analysis of the production decline data, Ryder Scott Company estimates the original recoverable gas reserves to be 46,278,000 MCF, of which 26,552,000 MCF was produced during the CTP. We have estimated that during the C.T.P. the MMS leases drained 17,338,358 MCF from the State leases.

Page 3

Brown (K-5B) Sand

This reservoir is located at an average depth of 13,500 feet subsea. It is also a consistent sand member extending across the field. Similar to the Red (K-5A) Sand, faulting exists which explains the presence of several different original gas-water contacts in the sand. However, pressure data substantiates that pressure communication does exist among the wells. Only the southern fault blocks which are juxtaposed to the Red (K-5A) Sand, as discussed above, appear to be separate from the other Brown (K-5B) Sand fault blocks.

Based on a composite bottom hole pressure data plot for the four wells in communication and an analysis of the production decline data, Ryder Scott Company estimates the original recoverable gas reserves to be 28,199,000 MCF, of which 20,078,000 MCF was produced during the CTP. We have estimated that during the CTP the MMS leases drained 1,989,299 MCF from the State leases.

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WASHINGTON, D.C. 20540
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WASHINGTON, D.C. 20540

COMPENSATION INFORMATION FOR THE YEAR 1970

NAME	DATE	AMOUNT
John F. Kennedy	1970	1,000,000
Richard M. Nixon	1970	1,000,000
Lyndon B. Johnson	1970	1,000,000
Hubert H. Humphrey	1970	1,000,000
Walter F. Mondale	1970	1,000,000

COMPENSATION INFORMATION FOR THE YEAR 1971

NAME	DATE	AMOUNT
John F. Kennedy	1971	1,000,000
Richard M. Nixon	1971	1,000,000
Lyndon B. Johnson	1971	1,000,000
Hubert H. Humphrey	1971	1,000,000
Walter F. Mondale	1971	1,000,000

COMPENSATION INFORMATION FOR THE YEAR 1972

NAME	DATE	AMOUNT
John F. Kennedy	1972	1,000,000
Richard M. Nixon	1972	1,000,000
Lyndon B. Johnson	1972	1,000,000
Hubert H. Humphrey	1972	1,000,000
Walter F. Mondale	1972	1,000,000

COMPENSATION INFORMATION FOR THE YEAR 1973

NAME	DATE	AMOUNT
John F. Kennedy	1973	1,000,000
Richard M. Nixon	1973	1,000,000
Lyndon B. Johnson	1973	1,000,000
Hubert H. Humphrey	1973	1,000,000
Walter F. Mondale	1973	1,000,000

COMPENSATION INFORMATION FOR THE YEAR 1974

NAME	DATE	AMOUNT
John F. Kennedy	1974	1,000,000
Richard M. Nixon	1974	1,000,000
Lyndon B. Johnson	1974	1,000,000
Hubert H. Humphrey	1974	1,000,000
Walter F. Mondale	1974	1,000,000



United States Department of the Interior

MINERALS MANAGEMENT SERVICE
WASHINGTON, DC 20240

Attachment 2

In Reply Refer To:
LMS-Mail Stop 642

MAY 30 1986

Memorandum

To: Regional Director, Alaska Region
Atlantic Region
Gulf of Mexico Region
Pacific Region

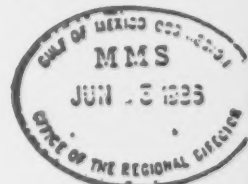
From: Associate Director for Offshore Minerals Management

Subject: Unitization in the 8(g) Zone

As a result of current litigation involving alleged drainage of hydrocarbon resources from State lands by Federal wells located in the 8(g) zone offshore Louisiana, we need to ensure that the departmental policy concerning unitization of State lands and Federal lands within the 8(g) zone is understood by your offices.

Unitization of such lands should only be approved in the interest of conservation or for prevention of waste. Beyond this, the Department holds that any compensation to the State for drainage of oil and gas from State lands was provided for in that section of the Consolidated Omnibus Budget Reconciliation Act which requires payment to the State of 27 percent of the value of oil and gas production from Federal wells located in the 8(g) zone. You should keep this policy in mind in any future situation when you are investigating the possibility of approving a unit agreement involving State lands and Federal lands in the 8(g) zone.

[Signature]
John B. Rigg



LOUISIANA

Attachment 3

United States Senate

WASHINGTON, DC 20510

May 19, 1986

The Honorable Donald Hodel
 Secretary
 U.S. Department of the Interior
 Washington, D.C. 20240

Dear Mr. ~~Secretary~~: *Don -*

It has come to my attention that a conflict has arisen between the State of Louisiana and the Department of Interior over the recently enacted amendments to Section 8(g) of the Outer Continental Shelf Lands Act. This conflict concerns the lack of a unitization agreement for adjacent federal and state leased tracts in the West Delta area offshore Louisiana.

As I understand the situation, a common reservoir underlies the federal and state leased tracts. Further, it is generally admitted that no more than 15 to 20 percent of the recoverable reserves of this reservoir underlie federal waters. Nevertheless, the federal lessee, Samadan, has produced some 35 percent of the recoverable reserves and is in the process of installing compression equipment so as to produce more. Indeed, production is taking place at a rate which not only threatens to damage the reservoir by leaving recoverable reserves in the ground, but which is costing the State of Louisiana more than \$1 million a month in lost royalty payments and severance taxes.

Apparently the Department of Interior has taken the position that the newly enacted 8(g) provision poses no duty on the Department to unitize with the state, and it cites the newly passed provision as affirmative authority for refusing to unitize. As the author of the Senate version of this provision, I wish to strongly disagree with this interpretation.

I would call to your attention Section 8(g)(3) which provides in pertinent part:

"If the Secretary has leased or intends to lease such tract or tracts, the Secretary and the Governor of the coastal State may enter into an agreement to divide the revenues from production of any common potentially hydrocarbon-bearing area, by unitization or other royalty sharing agreement, pursuant to existing law." (emphasis added)

*LA/USA - 11's 2d publ. reg.
 Item 29 - H.R.
 Request #s 1, 2*

The Honorable Donald Model
May 19, 1986
Page 2

Clearly, there was no intent on our part to alter the longstanding practice of unitizing in instances of common reservoirs. Rather, it was our intention to encourage unitization in instances such as this, and the history of such agreements between the Department and Louisiana was used as a role model. Some thought was given to requiring unitization agreements, but this notion was rejected for fear that some states might not have the requisite authority. The above captioned phrase was inserted in an attempt to reinforce unitization practices where they exist, and encourage them where they do not exist. It was never contemplated by those of us who wrote this law that this provision would be used by Interior as a justification for refusing to enter into unitization agreements.

One of the most compelling reasons for a comprehensive solution of the 8(g) issue was to eliminate the continued uncertainty and contentiousness between the states and federal government which had surfaced under the OCS leasing program. I fear that the approach being taken by Interior in this instance threatens that goal, and I strongly urge you to take the necessary steps to enter into a unitization agreement in this and all similar cases.

Unitization has been and should continue to be the generally accepted practice of the federal government as regards leases offshore Louisiana. While in this instance the federal government may be reaping revenues in the absence of such an agreement, you are no doubt aware that the situations could easily be reversed next time. In the absence of cooperation and unitization between these two governmental entities the rule of capture will apply. The resulting "race to production" is not in anyone's best interest.

The Department of Interior has a long history of cooperation with the State of Louisiana in the development of offshore resources. This history is one of the many reasons that we have actively supported an aggressive policy of leasing and development in the OCS. In the spirit of that longstanding relationship, I hope that you will take the necessary steps to amicably resolve the current situation.

With kindest personal regards, I am

Sincerely,



J. Bennett Johnston
United States Senator

JBJ:dod



One Seine Court, Box 6638
New Orleans, LA 70174-6638

(504) 368-5667
TWX 810-951-5165

R. C. Thompson
President

July 20, 1989

The Honorable J. Bennett Johnston
Chairman
Energy and Natural Resources Committee
136 Hart Senate Office Building
Washington, DC 20510

Dear Mr. Chairman:

LOOP very much appreciates your invitation to comment on the legislation you have proposed, the "Gulf of Mexico Oilspill Prevention and Response Act." The bill addresses many of the environmental issues that are significant to LOOP and could directly affect LOOP's operation and competitive position. We will offer comments on your provisions that relate to LOOP.

First, we suggest that under the proposed Act, the oil spill contingency plans presently required under the Deepwater Port Act be considered in the same manner as oil spill contingency plans required under the Outer Continental Shelf Lands Act. Second, with respect to contingency plans for vessels, we suggest a specific requirement that such plans will be required for vessels engaged in lightering operations anywhere within the exclusive economic zone. Third, with respect to the vessel design study by the Secretary, we suggest that the Secretary analyze and assess each operational feature reviewed as it may relate to different offloading or transshipment operations in the Gulf. Lastly, we suggest that the Secretary's report to Congress include a review of the need to encourage the use of deepwater ports as an alternative to lightering operations in the Gulf.

We have enclosed specific draft amendments to the legislation that would implement these suggestions.

Again, we would like to stress our appreciation for this opportunity to offer to you our suggestions. We well remember that your personal support for LOOP predates the submission of our application for a permit to contract the project.

Very truly yours,

RCT/jdp
Enclosure

Deepwater Oil Port USA

AMENDMENTS

Amend the proposed "Gulf of Mexico Oilspill Prevention and Response Act" as printed in the Senate as Amendment No. 229, as follows:

1. On page 16, line 7 of the legislation after "Act" add "or under the Deepwater Port Act of 1974".
2. On page 16, line 8 after "required" add "of vessels engaged in the lightering of oil within the Exclusive Economic Zone and such plans shall be required of other vessels".
3. On page 20 after line 16, add "The need or desirability of each operational feature and vessel design analyzed in this subsection shall be assessed separately with respect to requirements for transshipment or offloading of oil at a deepwater port, between vessels during a lightering operation and in coastal ports".
4. On page 20 after line 24, add a new subsection as follows: "(d) The need or desirability, from a safety point of view, of reducing the congestion of tanker traffic and thus the risk of oil spill accidents in coastal waters and coastal ports by encouraging the use of deepwater ports".

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**THE AMERICAN PETROLEUM INSTITUTE
TASK FORCE REPORT ON
OIL SPILLS**

June 14, 1989

On April 7, 1989, Richard M. Morrow, Chairman of the Board, American Petroleum Institute, and Chairman of Amoco Corporation, announced that the Board of Directors of the American Petroleum Institute had established a top-level Task Force to review industry operations in the areas of oil spill prevention and response. Allen E. Murray, Chairman of Mobil Corporation, was named Chairman of the Task Force and was asked to report the Task Force's recommended program for addressing the oil spill problem within three months. The Task Force is comprised of the chief executives or presidents of the following companies: Amoco Corporation, Arco, BP America Inc., Chevron Corporation, Exxon Corporation, Mobil Corporation, Shell Oil Company, Texaco Inc.

On April 10, Mr. Murray wrote each of the Task Force members for the purpose of creating a Study Group which would define the scope and objectives of the Task Force, develop the information necessary to carry out those objectives, and prepare preliminary conclusions and recommendations for the Task Force's consideration. The Study Group (which was comprised of a senior executive from each of the member companies of the Task Force) met several times, reviewed oil spill materials and related industry information, met with oil spill experts, and prepared several papers for the Task Force's consideration.

On June 2, the Task Force met to consider the Study Group's work. The following report is a distillation of that work as finally approved by the Task Force and contains the Task Force's conclusions and recommendations.

EXECUTIVE SUMMARY
OIL SPILL TASK FORCE REPORT

API's Oil Spill Task Force recommends that significant action be taken by the industry in three major areas - prevention of spills, response to spills, and spill-related research.

The Task Force believes its recommendations are in many ways consistent with the direction being taken by the Administration and the key Congressional Committees focusing on this issue. The Task Force thus believes its recommendations provide the basis for a meaningful dialogue with government in developing a cooperative approach to the oil spill issue.

Background

The following is offered as a brief overview of the major considerations which have influenced the Task Force.

- o Prevention must continue to be the first line of defense against spills and thus considerable emphasis needs to be placed on avoiding tanker accidents.
- o The industry's track record in dealing with non-catastrophic spills which have occurred has been good. Catastrophic spills have been infrequent.
- o The industry has neither the equipment nor the response personnel in place and ready to deal with catastrophic tanker spills. It should be emphasized that size of spill alone doesn't necessarily define "catastrophic" - type of oil and location of spill are two critical variables as well. If, however, for the sake of targeting catastrophic response capability, a 30,000 ton (216,000 barrels) spill is contemplated, the industry is not prepared anywhere along the coastal U.S. to deal with a spill of this size.
- o Even given adequate equipment and personnel, there are any number of variables beyond the control of a response team that can thwart a response to a spill at sea. Among these are: darkness, sea conditions, weather, physical properties of oil, location, logistics and safety considerations.
- o In view of the foregoing, nothing can be promised to government or the public except a best effort to respond at sea. Further research into recovery technology can certainly help in this regard, but it is not considered likely that we can move to the point of guaranteeing containment and recovery at sea.

- o The frustrations inherent in trying to contain and recover oil at sea and in attempting shoreline cleanup indicate a need for new technology and thus increased need for research.
- o Speed and decisiveness are critical to effective spill response and the procedures in place in the U.S. are hardly conducive to either. Federal, state, and local authorities as well as industry have to move toward a far more clear and workable response procedure.
- o Assessing the cost/benefit tradeoff of developing spill prevention and response capability is very difficult, as it is for most low risk, high consequence accidents. The Task Force has not found it useful to pursue a statistical rationale for a less aggressive posture than recommended in the report since the cost of catastrophic spills, infrequent as they may be, is extremely high. These costs include the impact on the environment, the cost to other affected parties, the cost of cleanup, the loss of industry reputation, loss of time to conduct normal business, the loss of business opportunities and an increased regulatory burden.

Recommendations

1. Prevention

Having reviewed the work already done by API's Committee on Marine Transportation in the area of spill prevention, the Task Force recommends several changes that it believes will make tanker operation more pollution resistant. These changes fall into three broad categories: (i) operations external to the vessel, (ii) personnel operating the vessel and (iii) design and equipment.

Some of the recommended changes are new initiatives, while others are improvements of existing safeguards. The Task Force has also identified areas of potential pollution prevention activity which are not clear-cut and require further study by an independent body in order to assure that changes will actually improve tanker safety and result in vessels which are more pollution resistant. Some of the key recommendations discussed in the Task Force Report are:

- o Recommendations that impact on tanker movements in congested areas which are external to the vessel itself.
 - Vessel Traffic Systems. There should be mandatory participation in U.S. Coast Guard advisory vessel traffic systems. Expansion of Federal vessel traffic systems into additional port and harbor areas may be justified by traffic density or navigational hazards.
 - Pilotage. Federal legislation should be enacted to establish higher qualifications and improved administrative standards for all state pilots in U.S. waters.

- Tug Assistance. Where extraordinary navigational hazards are deemed to exist by the U.S. Coast Guard, vessels should be required to have: (i) tug assistance, or (ii) twin screws, or (iii) bow thrusters or (iv) other suitable equipment enabling enhanced independent maneuvering.

o Recommendations that relate to tanker personnel:

- Drug and Alcohol. U.S. Coast Guard authority should be expanded to allow for drug and alcohol testing as a part of officer licensing procedures. Company policies should be established to determine substance abuse and to encourage treatment.
- Crew Complement. Industry should continue to support the U.S. Coast Guard role in setting manning standards.
- Licensing, Certification and Training of Marine Personnel. The International Convention on Standards of Training and Certification of Watchkeepers (STCW) should be ratified by the U.S. Government. In addition, improvements are needed in U.S. Coast Guard training requirements for cargo handling and bridge management.

o Recommendations on Vessel Design and Equipment:

- Automatic Pilot. Alarm systems for automatic pilots should be retrofitted for all tankers.
- Shipboard Oil Spill Response Capability. Ship specific oil spill prevention and control contingency plans should be required, but presently existing shipboard oil spill response equipment is not effective and would present safety hazards in its deployment. Research is proposed to investigate feasible and safe techniques for onboard response.
- Vessel Configuration. The merits of full application of ballast sides, reduced tank size and double bottom construction should be carefully studied by the National Academy of Sciences (or another independent body) with industry involvement.
- Vessel Size. Limiting the size of vessels at United States ports will not enhance environmental safety because of the adverse impact downsizing would have on tanker traffic.

2. Response

The Task Force proposes that an industry funded Petroleum Industry Response Organization (PIRO) be established to consist of a Headquarters Group and five Regional Response Centers.

The details of the proposal should be further refined by PIRO itself; however, it is suggested that the Headquarters Group be located in Washington, D.C. and coordinate its activities with the National Response Team, maintain an oil spill related data bank (resources, environmentally sensitive areas, industry response teams), participate in oil spill related research and provide training and auditing guidance to regional offices. Most importantly, the PIRO headquarters staff would coordinate a PIRO multi-region response.

The Regional Response Centers would provisionally be located in the New York tri-state area, Norfolk, New Orleans, Long Beach and Seattle. Regional response centers would coordinate their activities with government's Regional Response Teams, audit and provide training to cooperatives and industry facilities with local Coast Guard participation and respond to spills beyond local capability. Each center will be manned around the clock with dedicated, trained personnel and equipped with properly maintained containment, mechanical recovery, dispersal, and shoreline clean-up equipment. Each center would be sized to have a 30,000 ton (216,000 barrels) spill response capability.

It is estimated that the annual cost of the PIRO structure would be around \$30-35 million in 1989 dollars (excluding insurance costs). This includes a ten-year amortization factor for up front capital costs for equipping the five Regional Response Centers and providing equipment and computers for the headquarters. The up-front capital cost would be in the range of \$70 to \$100 million.

It is recommended that the capital cost and annual operating costs be funded by industry along lines similar to the cargo owners' Cristal arrangement. This would entail a charge to industry members based on crude and heavy fuel oil carried by sea and received by industry members at U.S. facilities. There is no perfect allocation system but this one is relatively simple in concept, has worked well, and provides a logical fit with the problem at hand.

The Task Force feels that while a considerable amount of detailed consideration has gone into the proposed structure and function of PIRO, it will be necessary to coordinate further refinements and implementation with the cooperation of government, particularly the Secretary of Transportation and the Coast Guard.

The Task Force recommends that the Secretary of Transportation manage major spills. The Secretary has a legal responsibility to see that spills are promptly and adequately dealt with and, through the Coast Guard, he maintains an organization to fulfill that responsibility, with support vessels and aircraft readily available. Through its role on the National Response Team and its involvement in Regional Response Teams, the Coast Guard is well positioned to provide a consistent nationwide approach to spill management and the Secretary of Transportation is better positioned than industry members to resolve the diverse interests of other federal, state, and local agencies which must be coordinated to allow quick and decisive spill management.

Thus the recommended concept is that PIRO should provide equipment and skilled, dedicated people to respond to major spills under the leadership of the Secretary of Transportation.

Action Steps

It is recommended that the following steps be initiated to implement the spill response recommendations in a timely manner:

- o Gain industry concurrence to the general structure and manner of funding of PIRO.
- o Initiate discussions with the Secretary of Transportation, the EPA, the Coast Guard and other Government entities as appropriate to insure that the recommended structure and division of responsibilities is mutually acceptable.
- o Establish PIRO headquarters and the PIRO Board of Directors. PIRO headquarters, assisted by industry advisors and the government, should, among other things, finalize the exact location, sizing, equipment specifications, staffing, etc. for the Regional Centers and establish the Centers. A significant amount of detailed work has been done by the Task Force to facilitate this process.
- o One of PIRO's major responsibilities will be to audit the local response capability of cooperatives and contractors - this process can begin under API direction until PIRO is established.

3. Research

The Task Force has conducted a preliminary assessment of the research and development opportunities related to oil spills. The needs identified span the spectrum from science (e.g., better understanding the chemistry and biological effects of spilled oil on the environment) to operations (e.g., use of containment booms in high sea states). The thrust of the program proposed is to initiate work first in those areas where the assessment suggests the greatest potential benefits.

Since the bulk of the proposed R&D programs have operational objectives, they should be managed by the Petroleum Industry Response Organization (PIRO). The staffing needs for this function have been incorporated in the proposed PIRO organization detailed in this report. It is recognized that the American Petroleum Institute has agreed to fund half of a \$6 million research effort by Department of Interior on oil spill technology. It is also recognized that, in the past, a subgroup of the API Health and Environment General Committee has managed research devoted to oil spill response and effects. Some further discussion among PIRO, DOI and API will likely be needed to fine tune the R&D management responsibilities to avoid duplication, gaps or inefficiencies.

Overall Program

Based on contributions from industry and others, an overall program of \$30-35 million has been identified with six major objectives and prioritized to be executed over five years:

Objective	Estimated \$k/yr.	
	Year 1 and 2	Years 3-5
- Preventing Loss From/Away from Ship	150	150
- On-Water Oil Recovery and Treatment	2,650	1,850
- Preventing and Mitigating Shoreline Impact	3,450	1,675
- Fate and Effects of Oil in the Environment	2,100	1,100
- Wildlife Preservation	700	150
- Health and Safety	300	50
Total Per Year	9,350	4,975
Overall for Period	18,700	14,925
Grand Total	33,625	
	(\$30-35 million)	

The front-end loaded first five years is intended to build an enlarged technical base, to be followed by a continuing effort which would likely be in the \$1-4 million per year range. Initial consideration of organizations to execute individual programs suggests that there are several potential alternatives for most programs and that PIRO will need to provide guidance and focus to ensure that proposal requests are targeted at the most capable organizations.

This program provides a general guide for the types and levels of R&D initiatives. Detailed guidance and peer review will be required as individual programs and projects are progressed.

* * * *

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I. External Issues

A. Vessel Traffic Systems

Recommendation: Mandatory participation in U.S. Coast Guard (USCG) advisory vessel traffic systems is recommended. Also expansion of Federal vessel traffic systems into additional port and harbor areas may be justified by traffic density or navigational hazards.

Vessel Traffic Systems (VTS) monitor and advise the operation of a vessel during transit through an area of concern. Participation in such systems is either mandated by regulation or is voluntary. Presently, several vessel traffic systems exist in the United States, including Puget Sound, Washington; Prince William Sound, Alaska; Houston, Texas; Morgan City, Louisiana; and San Francisco, California. VTS centers in New Orleans and New York were closed due to budgetary constraints.

VTS can be valuable in providing for safe transit of marine vessels. Operational improvements and expansions into additional appropriate locations are recommended. While participation should be mandatory, such systems should continue to remain advisory due to inherent limits in radar coverage.

The two kinds of VTS are radio position reporting and radar. Radar is the preferred system and existing radio systems should be converted where practical. Systems should continue to be operated by the Federal government (USCG) so as to assure clear lines of jurisdiction and control. Operating personnel must be highly qualified and well trained.

B. Pilotage

Recommendation: Higher qualifications and improved administration standards should be established for all state pilots in U.S. Waters: Federal legislation is required to accomplish this.

All vessels operating in the navigable waters of the United States are required to be under the control of a state or Federally licensed pilot. Currently, there is a disciplinary system enforced by the USCG to ensure that Federal pilots are competent. There is no equivalent, uniform system of standards for state pilots.

All states have laws requiring vessels under register to have a state licensed pilot onboard when underway in the navigable waters of the state. Most states have formed Boards of Pilot Commissioners to regulate the licensing and fee structure of state pilots, with stipulations as to any

PREVENTION

OIL SPILL PREVENTION
RECOMMENDATIONS

The Task Force, through its Study Group, reviewed tanker operations, personnel and vessel design in order to determine if any changes should be made to the basic operational framework of the tanker industry which could reduce the likelihood of pollution from a tanker.

We are recommending several changes which we believe will make tank vessel operation more pollution resistant. Some of the recommended changes are new initiatives and some are improvements of existing safeguards. Areas which are not clear-cut require further study by an independent body in order to assure that changes will actually improve tanker safety and result in vessels which are more pollution resistant.

This paper will present a discussion and recommendation for each issue. Discussions are divided into three sections:

- I. Issues that impact on tanker movements in congested areas which are external to the vessel itself.
- II. Issues that relate to the personnel who sail and operate the vessels.
- III. Issues related to vessel design and equipment.

special requirements for navigation in particular state waters. While the vessel owner is legally obliged to use a pilot, a vessel is operated under the sole responsibility of the Master; the pilot is merely an advisor and has no personal liability. The vessel owner has little or no control over assignment of the pilot for any particular port visit.

The process of certification and re-certification should be upgraded and made uniform so that effective disciplinary measures can be invoked. To ensure such uniform high standards, certification for all Federal and state pilots should be changed so as to fall under the jurisdiction of the Coast Guard.

The USCG should have the authority to proceed against the license of state pilots who have demonstrated a lack of skills or judgement. This should be achieved by the establishment of Federal standards for disciplinary action, which would require any pilot involved in a collision, stranding or other casualty to undergo USCG investigation prior to returning to duty.

C. Tug Assistance or Escort in Inland Waters

Recommendation: Where extraordinary navigational hazards are deemed to exist by the USCG, vessels should be required to have: (1) tug assistance or (2) twin screws or (3) bow thrusters or (4) other suitable equipment enabling enhanced independent maneuvering.

With the exception of Puget Sound and Prince William Sound, there is no current provision or requirement for tug escort in U.S. waters. Tugs are not well suited for handling vessels at speeds in excess of 3 knots in either the assist or escort mode. In general, tug assistance, twin screws or bow thrusters would not be able to prevent a vessel from grounding at normal operating speed, but might be helpful at slow speed in tight maneuvering situations. Where extraordinary navigational hazards are deemed to exist by the USCG and it is possible that such measures could prevent a vessel from drifting into danger, a vessel should be required to have: (1) strategically located tug assistance available or (2) twin screws or (3) bow thrusters or (4) other suitable equipment.

II. Personnel Issues

A. Drugs and Alcohol

Recommendation: Drug and alcohol testing of marine personnel and rehabilitation of drug and alcohol-dependant personnel should be supported.

While the safe operation of the vessel must be the first priority of the vessel owner, the individual rights of crew and shore staff must also be protected. These two priorities can be in conflict, however, with the use or dependency on drugs and alcohol.

Vigorous efforts to deal with drug and alcohol problems are needed. There must be zero tolerance for illicit drug use and alcohol abuse on board vessels. Illegal possession or use of drugs is normally dealt with by removal of the suspected individual from the vessel with appropriate investigation and discipline. Random searches, Customs Service inspection, and other procedures are used to enforce drug policies.

Active company programs to address alcohol abuse should be encouraged. Alcoholism is a disease, and successful rehabilitation can permit re-employment which encourages the employee to seek early treatment. Company policies must be aimed at determining if an employee has a drug or alcohol problem and to encourage that individual to get treatment.

USCG authority should be expanded to allow for drug and alcohol testing as a part of officer licensing procedures, including Coast Guard participation in the National Driver Registry Program, in order to help identify drinking problems. The present Coast Guard regulation prohibiting operation of a vessel while intoxicated should be expanded to include shoreside personnel on board a vessel during cargo operations.

B. Crew Complement

Recommendation: A continued USCG role in setting manning standards for U.S. flag vessels should be supported.

A Minimum Safe Manning Certificate for each vessel is issued by the vessel's flag state government. This certificate prescribes the minimum number of officers and ratings necessary for the safe operation of the vessel and stipulates the various grades in which the officers and ratings should be qualified. The manning levels are based on the type of vessel and its intended trade -- after considering the requirements for safe navigation, propulsion, maintenance and cargo operations. The Coast

Guard has responsibility for determining the minimum manning level required on U.S. flag vessels.

The size and qualification of the crew needed to safely operate a vessel will vary depending on the duties to be performed. These functions range from those associated with normal operations to those required to meet the demands of emergency situations. A ship must be self-sufficient in its ability to get safely from one port to another.

Today's system of the flag authority setting manning standards, depending on the individual vessel, is a proven process. Continued improvements in automated systems, along with the attention to the qualifications of the crew members who make up the designated complement, will help to ensure that safety is not sacrificed.

C. Licensing, Certification, and Training of Marine Personnel

Recommendation: The International Convention on Standards of Training and Certification of Watchkeepers (STCW) should be ratified by the U.S. In addition, improvements are needed in USCG training requirements for cargo handling and bridge management.

The International Convention of STCW prescribes minimum standards of training and qualification under which flag states license officers and certify unlicensed personnel. The STCW convention has not been ratified by the U.S. Senate and ratification of the STCW would enable the USCG to better control and enforce the standards of visiting foreign flag vessels.

While USCG licensing standards for U.S. flag vessels meet or exceed almost all STCW standards, there is a discrepancy in the area of training. Specifically, the STCW convention addresses requirements for training of both licensed and unlicensed personnel who are responsible for loading or discharging tanker cargoes. Courses include basic safety and pollution prevention precautions and procedures, types of cargo and their hazards, handling equipment and general operational sequence.

Present USCG training regulations, however, apply only to unlicensed crew members. Any officer, regardless of training, can conduct tanker cargo operations. The USCG should expand its training requirements to include all personnel involved in cargo handling.

In addition, USCG regulations do not provide for bridge management training. Such training would ensure that officers are completely familiar with standard bridge, operating procedures and thus provide for a uniform high standard. In other areas USCG certificate training

requirements for marine personnel on U.S. flag vessels are at least as stringent as STCW.

III. Vessel Design and Equipment Issues

A. Automatic Pilot

Recommendation: Alarm systems for automatic pilot should be retrofitted for all tankers.

On a typical vessel, there is an indicator light in the steering stand which clearly shows whether the steering mode is automatic pilot or manual. There is also a switch which is used to select the auto or manual mode. While steering in the manual mode, the rudder motion can be seen on the indicator when the autopilot is operating and moving the ship's wheel has no effect. An alarm system designed to alert the watch of an engaged autopilot would help eliminate human error.

Automatic pilots should be improved by installing an alarm with flashing light to trigger when the helm is moved while the automatic pilot is engaged.

B. Shipboard Oil Spill Response Capability

Recommendation: Ship specific oil spill prevention and control contingency plans should be required, but shipboard oil spill response equipment should not be required.

In most cases, vessels are not required to carry oil spill emergency response plans. Such plans outlining notification, emergency cargo handling, cargo hazards, emergency ship handling, and vessel salvage would provide a good basis for immediate response and also would provide the basis for training. All tankers should be required to have such a plan on board and the USCG should enforce the requirement in U.S. waters.

The responsibility of shipboard personnel in the event of an accident is to stabilize the condition of the vessel so as to protect lives and mitigate damage resulting from the incident. An oil tanker typically does not carry dispersants, floating booms or similar materials for use in controlling an oil spill. Due to varied environmental and ecological conditions and regulations in each port, use of onboard equipment and/or chemicals without full knowledge of local conditions could result in additional damage.

If an incident were to occur, moving heavy oil spill equipment from the deck of a tanker would involve serious safety hazards and divert attention from cargo salvage efforts. Crew members would be at risk when deploying small boats or equipment over the side. Further, such boats could

capsize or ignite the spill. Going over the side of the vessel in Arctic waters or heavy seas would be an added danger. A hazard is also created by the explosive vapor from the spill itself. Containment of oil in close proximity to the vessel could cause serious health and safety problems as well. It is strongly recommended that tankers not be required to carry control equipment for spilled oil.

Research should be conducted to determine whether improved technology could allow spill response measures to be taken without endangering the safety of crew members.

C. Vessel Configuration

Recommendation: The merits of full application of ballast sides, reduced tank size, and double bottom construction should be carefully studied by the National Academy of Science or other independent body. Changes in vessel design criteria should be developed and implemented through the International Maritime Organization.

In general, the tanker industry believes that certain design changes for new vessels may be appropriate. However, the issues are extremely complex and require careful study before establishing a requirement. Previous studies during the 1970's by the USCG and the International Maritime Organization concluded that protective ballast and reduced tank size would improve environmental safety and such changes were adopted. At that time it was concluded that double bottom design is a detriment to a grounded vessel salvageability and therefore increases the chances of major spill.

It is expected that further study will confirm these earlier results and may conclude that extension of protective ballast to full side ballast will yield further improvement. Further reduction in tank size could also minimize the outflow of oil in case of an accident.

Past studies have concluded that double bottom construction is a liability in salvaging a vessel. Double bottoms may prevent minor pollution in vessel groundings, but probably increase the risk of major pollution in large vessel incidents. When the double bottom of a tanker is pierced, the vessel will sink deeper into the water because of flooding of the empty double bottom hulls. This reduces the ship's buoyancy, causing the vessel to settle more firmly aground. If a loaded single bottom tanker were penetrated, its buoyancy would be less affected and therefore would be more salvageable.

After a tanker grounding occurs, the issue of salvage of the cargo becomes crucial. A grounded vessel will be subject to

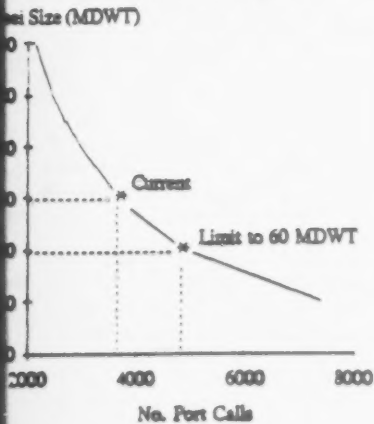
wind, waves, current and tides, thereby risking spillage of the remainder of the cargo until the vessel is refloated. Therefore, the increased difficulty of salvaging tankers with double bottom construction could result in initially minor grounding incidents being converted into serious losses. For this reason, the mandatory installation in newbuildings would seemingly prove to be of little value and could in fact contribute to pollution risk.

D. Vessel Size

Recommendation: Limiting the size of vessels calling at U.S. ports is not recommended because it will not enhance environmental safety.

Any requirement limiting vessel size would increase the number of vessels in or around U.S. waters and thus the likelihood of an accident. In 1988, about 6 million barrels per day of petroleum products were imported to the U.S. on vessels ranging from under 30 thousand deadweight tons (MDWT) to over 300 MDWT. Because of U.S. port capacity restrictions, vessels smaller than 140 MDWT accounted for about 90% of the estimated 3800 port calls made.

No. of Port Calls Needed for
U. S. Imports of 6 MMB/D



As shown in the graph, in 1988, the average vessel size was about 80 MDWT. If vessel size were limited to 60 MDWT, this would result in approximately 1100 additional U.S. port calls, or a 30% increase. Therefore smaller tankers will increase the risk of more accidents.

RESPONSE

RESPONSE TO CATASTROPHIC SPILLSSPILL BACKGROUND

- o The most recently prepared oil spill figures for the ten-year period ending in 1986 show a steadily decreasing number of reported oil spill incidents of all sizes in and around U.S. waters. The number of reported spills that occurred in U.S. waters in the latter part of the ten-year report period is less than half of what was reported at its outset. Roughly 90% of these reported spills were less than one ton (7.2 barrels or 302 gallons) and, on average, there were only two spills per year in excess of 3,500 tons (25,200 barrels). A more detailed analysis of these oil spill figures and the patterns they suggest are contained in Exhibit A.
- o At present there are a number of cooperatives and contractors designed to deal with these relatively small spills that make up the overwhelming majority of all spill incidents. In addition, most petroleum industry members with off-shore drilling operations, shoreline terminals or refineries have a spill response capability gauged to address the type of spill such an installation might reasonably expect. These cooperative, contractor and industry spill response resources have a generally excellent record in handling the smaller, inshore spills which often occur at stationary facilities. A different situation exists, however, when it comes to significant spills from the moving source a tanker represents.
- o A review of major tanker spills going back over the ten years prior to 1989 shows there were only two spills in and around U.S. waters in excess of 10,000 tons (72,000 barrels). One of these spills was just over 10,000 tons and the other (approximately 35,000 tons or 252,000 barrels) was as a result of a collision and fire which burned a large part of the oil before it ever reached the water. The only three major spill incidents during the prior ten-year period (1968-78) were in the 30,000 ton (216,000 barrels) range or less and occurred in such diverse locations as Texas, North Carolina and Massachusetts. If any conclusion can be drawn from this data, it is that major oil spills are both rare and unpredictable as to location and environmental impact.
- o This report and the proposals contained in it are designed to address that rare and unpredictable incident involving a catastrophic spill from a tanker on (or threatening) waters contiguous to the United States (within the 200 mile exclusive economic zone, including harbors and river mouths). A catastrophic spill cannot be defined by volume alone - the location of the spill, the type of oil spilled, the environmental concerns and the weather and tidal conditions at the spill site can have as much to do with the spill's seriousness as the amount of oil actually spilled. For the purposes of this paper, a catastrophic spill is simply one which is beyond the response capability of local resources.

- o A realistic appraisal of U.S. and in fact, worldwide response to major spills will recognize that no effective containment of such a spill has been accomplished. For such spills that occur near land, unless weather or other conditions of nature are such that oil is carried to sea, it is highly probable that oil will reach shore. While attempts at containment and at sea recovery are nonetheless desirable, response must also deal on a priority basis with defense of sensitive shore areas and on-shore cleanup capability.

THE PROBLEMS

- o While the number of catastrophic spills over the last two decades have been rare, they have indicated that the resources needed to deal with a very large spill are not readily available. Some of the factors contributing to this apparent gap in resources are as follows:
 - No U.S. cooperative has been designed to deal with a catastrophic spill. The only cooperative worldwide which has a capacity greater than 20,000 tons (144,000 barrels) is Oil Spill Response Ltd. (OSRL) in Southampton, England. A review of several local U.S. cooperatives such as Clean Harbors (NYC area) and Delaware Bay Cooperative indicates that none are designed to respond to spills greater than 10,000 tons (72,000 barrels).
 - With the exception of a few large cooperatives such as Clean Gulf Associates and Clean Seas (which are geared to platform spills) and the Louisiana Offshore Oil Port, the capability of U.S. cooperatives, including contractor support, is designed for protected harbors and sheltered waters where 95% of the spills occur.
 - It is generally believed that spill contractors have diminished in numbers and capability over the years because of industry's excellent prevention record. Those major contractors which remain exist largely to support cooperatives and few are known to have offshore equipment.
 - Government (Coast Guard) capability has diminished because of budgetary limitations; for example, the number of Strike Teams has been reduced from three to two. The U.S. Navy's capability remains intact because of its need to provide response capability for its own vessels, but their resources have aged.
 - Industry response teams vary in depth, training and capability. Independent tanker owners who have spilled oil generally do not have shoreline resources and rely on their protection and indemnification insurance representatives (P&I clubs) to coordinate cleanup activity with government, cargo owners, and contractors.
- o Response to spills on open water is never easy and is sometimes dangerous and ineffective. The key reasons for this ineffectiveness are beyond the spill response team's control:

- Darkness: One cannot see oil on the water at night. With remote sensing equipment this might become less of a problem, but safety becomes a major concern during nighttime operations.
- Sea conditions: As seas approach 6 - 8 feet, much equipment becomes ineffective and deployment of the equipment becomes difficult and dangerous. Use of the smaller vessels usually available becomes less acceptable. Tidal and other currents (wind driven, ocean, river outflow) often cause the oil to move in unpredictable directions rendering boom use difficult and ineffective. In situations where the current (relative to the boom) is in excess of one knot, containment is virtually impossible.
- Weather conditions: Snow, fog, heavy rain and temperature all impact on the ability to deploy equipment.
- The physical properties of the oil spilled: Oil that is highly viscous is more difficult both to disperse and to mechanically recover than oil that is less viscous. The type of oil will also affect evaporation and weathering rates and the type and degree of environmental impact.
- The location of the spill: If oil is spilled close to a shoreline and if the drift of the oil caused by wind and current is onshore, it is unlikely that anyone can prevent shoreline contamination no matter how ideal the conditions. In all cases, oil rapidly spreads on the surface of the sea and any delay, from whatever cause, only makes containment and subsequent recovery or dispersal that much more difficult.
- Logistics: If transport (road, air, and/or sea) to the spill site is not immediately available, critical delays can result.
- Safety: A large volume of oil on the water, under slack current and certain atmospheric conditions, can present a major potential explosion and/or fire hazard which could compel a delayed response. Similarly, if the spilled oil has a high hydrogen sulfide (H_2S) content, response crews can be slowed by the requirement to take protective measures.
- Priorities: The circumstances of a spill frequently require priority on other issues which can delay or interfere with containment or cleanup efforts. Preservation of human lives and stabilization of a vessel to prevent further spillage are two cases in point.
- o The Clean Water Act is the key federal statute that forms the basis for the regulatory scheme which affixes responsibility for control and cleanup of an oil spill on contiguous U.S. waters. Under the law, the party causing the spill has the primary responsibility for its control and cleanup. Only when that party fails (or elects not to respond) does the government have a

mandate to step in and respond to the spill. Yet, it is unreasonable to expect every single industry participant to effectively respond to a catastrophic spill which might occur anywhere on U.S. waters since neither tanker owners nor petroleum industry members are likely to have a local response capability proximate to every possible spill location. In addition to the potential lack of any manpower or facilities being based near the spill site and the physical, operational and logistical problems involved in responding to a massive spill, the party causing the spill is often confronted with substantial hurdles:

- In order to accomplish its operational and logistical goals, the spiller usually must comply with a myriad of federal, state and local regulations and ordinances. Very often compliance requires review and/or approval by a number of political agencies or subdivisions. Nowhere is this more evident than with the use of dispersants or the disposal of waste. In a catastrophic spill situation, where swift and decisive action is critical, such delay can substantially increase environmental impact.
- The National Contingency Plan (NCP) is designed to synchronize the varied governmental interests involved with a spill through its pre-designated federal on-scene coordinator (OSC). (In the case of the spills covered by this paper, this would be a U.S. Coast Guard representative.) Given this mandate under the Clean Water Act, the OSC should be in a position to address the problem of conflicting interests by taking control of the response, resolving state and local concerns, and implementing the pre-approved procedures decisively. When time is of the essence, decisiveness is not served by the present practice of having a spiller fail in its attempted response to a spill before having the government take over.

RATIONALE

- o Assessing the cost benefit trade off of developing the capability to respond to a catastrophic spill is especially difficult. Statistically the catastrophic spill rarely occurs, is unpredictable in location, and response may be considered ineffective even under the best of circumstances. The financial cost of any realistic plan to optimize response to a catastrophic spill will be substantial, but these costs must be weighed against the cost of failing to put such a plan in place. Among those latter costs would be the impact on the environment; the cost to other affected parties; the cost of clean-up; loss of industry reputation and of the reputation of the companies most directly involved; loss of time to conduct normal business; loss of business opportunities and an increased regulatory burden for the industry.

THE TASK FORCE PROPOSAL

- o While industry cannot promise anything but its very best effort in responding to a catastrophic spill, there is opportunity to enhance that "very best effort" by providing greater availability of equipment and trained manpower to deal with future catastrophic spills. In developing a

greater capability, industry must focus not only on proper equipment and skilled manpower but also their location, speed of transport and method of deployment. Existing capability, which needs auditing and updating, should continue to provide the local, first line of defense; however, if industry is going to significantly improve its spill response capability, the Task Force believes it can best do so by establishing a national industry response organization. Such an industry response organization would have as its primary objectives: (i) providing a "best efforts" response to catastrophic spills in and around U.S. waters (including containment and cleanup of floating oil and shorelines, through the development of response centers and acquisition of oil spill equipment; (ii) the development and maintenance of a comprehensive data bank of all spill response resources and related information; (iii) the carrying out of training and auditing of local capabilities to assure their readiness; (iv) the development through the appropriate government agency of effective regional contingency plans, including pre-approval agreements for use of dispersants and other mitigation techniques; and (v) the identification and management of selected oil spill research projects. This petroleum industry response organization (PIRO as it is called herein) would be developed in the following manner:

- As soon as possible, industry should agree on both the concept of a new industry response organization and its general structure, functions and goals. This structure should have a headquarters or "core" group as well as regional operations groups. Implementation of this concept should not, however, be finalized without the advice and cooperation of the Department of Transportation, the EPA, the U.S. Coast Guard and, as appropriate, a number of other government entities. Recommended preliminary objectives for PIRO are set forth in Exhibit B. The objectives may, of course, be modified by further study and practical experience.
- At the same time it agrees on the concept and general structure of PIRO, industry should agree on the manner in which PIRO is to be funded and the manner in which industry will participate in its activities. Both of these issues are discussed later in this section of the report.
- Once industry agreement has been reached, the PIRO Board of Directors should be selected and the PIRO headquarters should be established where the headquarters for the U.S. Coast Guard and the National Response Team are located, which is presently in Washington, D.C.
- o Once established, PIRO headquarters, with the assistance of a team of industry advisors and the government, should finalize the following matters:
 - A plan should be developed to determine existing local response capability using Coast Guard, industry, cooperative and contractor assistance and to establish a nationwide database information system covering spill response capabilities from all these sources. API should

review local capability in the period before PIRO is established, with PIRO taking over this responsibility as it becomes operative. Thereafter, audits will be conducted periodically to determine changes in capability, which will be reflected in the database. The PIRO audits will include type and amount of equipment, manpower for deployment and use, state of maintenance and related matters. Databases will be periodically updated to reflect changes. The importance of these audits cannot be overstated since it is envisioned that local response will be the first line of defense as it represents resources already in place which can provide rapid response to spills in any area.

- The spill size assumed for PIRO response capability is the casualty of a 250,000 ton (1.8 million barrels) vessel. Given normal evaporation and rapid salvage efforts, this response capability would be achieved by calling on the resources of all PIRO regional stockpiles on a tiered basis, with each center sized to have a 30,000 ton spill response capability. Regional response centers would also coordinate their activities with government's Regional Response Teams, audit and provide training to cooperatives and industry facilities with local Coast Guard participation and respond to spills beyond local capability. Each center will be manned around the clock with dedicated, trained personnel and equipped with properly maintained containment, mechanical recovery, dispersal, and shoreline clean-up equipment.
- The potential PIRO regions and local staging locations, along with the considerations for their selection are shown in Exhibit C.
- A suggested stockpile inventory with estimated cost has been included as Exhibit D.
- Exhibit E is an estimate of potential equipment and personnel arrival times in a hypothetical example. It should be noted that time estimates in this model were developed for a hypothetical spill off Delaware Bay (assuming the PIRO locations described in Exhibit C) and involved an analysis of transportation availability (including use of military aircraft), local support availability, and related logistical matters. These "best case" response times exclude the impact of non-controllable factors such as weather and visibility.
- The identification of research needs and the manner in which such research needs should be met are presented later in this report. An essential first step involves a thorough and coordinated effort which catalogues prior known research so that this information can be immediately used in planning new research or application.

PIRO needs to move quickly in coordination with all relevant government groups to develop practical regional contingency plans, including obtaining pre-approval, where appropriate, for the use of dispersants, burning, absorbents, oleophobic coatings and other spill mitigating devices. In

addition, such plans should establish shoreline protective strategies which would identify the most sensitive areas, and recommend the deployment locations and types of boom which will afford the greatest protection and will prevent the shoreline from becoming a source of secondary contamination when tides and/or currents re-float the oil and carry it further down the coastline. Similarly, these contingency plans should contain pre-approved arrangements for disposal of contaminated shore materials. This is a major priority of PIRO which will consume significant resources and time, and will require cooperation of affected government, business, and environmental interests.

GOVERNMENT ROLE

- o To enhance effective spill response capabilities, state of the art equipment and skilled manpower are required and a logistics plan must be in place to rapidly deploy both. To accomplish this, a management scheme that maximizes the effectiveness of the equipment must be established. Through PIRO, industry can provide equipment, management skills, conduct research, complete audits, provide training, and establish and update the necessary informational network. However, with so many factors beyond its control, industry cannot insure that it will meet all the logistical and coordination requirements of a major response.
- o The Secretary of Transportation, through the U.S. Coast Guard, has the existing responsibility to see that spills of oil are promptly and adequately dealt with and to maintain an organization to fulfill this responsibility, with support vessels and aircraft readily available. Through the National Response Team (of which it is an integral part), the Coast Guard should be enabled to provide a consistent nationwide approach to major spill response operations and be able to implement that approach. It is essential that the Secretary of Transportation directly or through the Coast Guard and its On-Scene Coordinator (OSC), assume authority over critical spill response decisions. Only by taking this step can there be clear-cut authority to implement time-critical steps such as dispersant use in pre-approved areas. Similarly, criteria for solid waste disposal must be adopted and followed so that spill response actions can be tailored to meet these criteria.
- o The U.S. Coast Guard, under the direction of the Secretary of Transportation, offers the best means for improving control of catastrophic spill response logistics and management with its experienced spill response management structure, its immediate access to military aviation resources and government and private vessels suitable for deployment of spill control resources, its national communications system, and its responsibility to resolve the diverse interests of other federal and state agencies.

It is therefore proposed that industry support management of spills by the Secretary of Transportation in the following circumstances:

- Any spill from a ship in waters contiguous to the U.S. where response activities are required, excluding harbor/bay areas and the entrance to

ports. In general, industry cooperatives and contractors do not have the logistical means or equipment to effectively respond to offshore spills of any size.

- Any spill in excess of the Coast Guard determined local capability (individual companies, cooperatives and contractors) anywhere in the port and harbor areas. Initial establishment and annual reassessment of realistic local capability must include specific guidelines for triggering Coast Guard management so as to minimize any delay in the availability of a PIRO response in conjunction with local resources under Coast Guard direction.
- o The actual process would be triggered in the first case by the initial notification to the National Response Center and in the second case by the Coast Guard's determination.
- o As noted above, under Section 311(c)(1) and (2) of the Clean Water Act and the National Contingency Plan (NCP), the U. S. Coast Guard already has authority to assume control of oil spills not being dealt with adequately. Ideally, the best way to both strengthen the Coast Guard's decision making authority and to effectuate the Secretary of Transportation's authority over the spill situations described above would be through amendment of the Clean Water Act and the NCP; however, pending the outcome of what could be a time-consuming congressional process, the industry could notify the Secretary of Transportation and the Coast Guard of its view that adequate response to the described spill situations can only be achieved through the Secretary's control. Coupled with the availability of PIRO, this industry position should assist the Coast Guard in making a determination to fully exercise the authority it presently has under Section 311 and the NCP.
- o Practically speaking, management of offshore spill incidents caused by marine transportation or any spill beyond the agreed local capability will occur as it does today, except the Secretary of Transportation will automatically take control and manage the spill, calling in PIRO as their prime contractor. The Coast Guard, the affected states(s) and the company accepting responsibility will jointly conduct response operations under the direction of the Secretary of Transportation and the Coast Guard. Since PIRO manpower resources will not be sufficient to provide more than supervisory and oversight roles, full industry response team staffing and training remains vital.
- o Management of spill incidents not included above will continue in its existing form. Basically, the responsible company using local resources will respond to the spill with its activities monitored by the Coast Guard. In this situation, it is envisioned that the responsible company could hire a regional PIRO, under certain limited circumstances, without triggering Secretary of Transportation management of the spill.

To insure the best response to non-catastrophic spills, particularly at refineries and terminals, PIRO should begin a survey of industry facilities that request it. As part of PIRO's audit responsibilities, this information would be made a part of its database. Because of the many

diverse factors that determine ability to successfully respond to a refinery or terminal spill — location, geography, waterfront layout, size of shipments, type of products handled, weather, manning, etc. — standardized response equipment is not likely to be appropriate for each facility. Rather these factors will be carefully examined at each site, past spill frequencies will be determined, prior responses studied, and an assessment will be made by PIRO as to what is adequate. If desired, local Coast Guard staff could also be involved in these evaluations. Where deficiencies are identified between the PIRO assessment for the individual facility and what is in place, the operator would be informed. PIRO staff could assist in helping to select the most cost effective equipment and training, and perhaps also conduct the necessary training. These evaluations will be conducted as a service to industry members and ample opportunity and guidance will be given for overcoming any shortcomings.

- o In addition to management and logistical control of catastrophic spills, once PIRO is in place, joint training of PIRO and Coast Guard Strike Teams is contemplated. They, in turn, would provide training for cooperative personnel, contractors, industry and others involved in major spill response. Exercises, from local cooperative spill simulations to full exercises including deployment of PIRO equipment with Regional Response Team involvement, would identify areas that need to be modified or strengthened in order to develop the most effective combined response to major spills. This approach should result in improving the speed, efficiency, coordination and consistency of response management through well trained people and state of the art equipment.

AMOUNT AND MANNER OF FUNDING

- o Preliminary estimates of the cost of PIRO are shown in Exhibits D and F. The estimate for the start-up cost indicates a range of \$75-\$100 million. The estimated annual cost in current dollars for operating the PIRO headquarters and five regional bases will probably be in the \$30-\$35 million range, excluding the cost for liability insurance. This includes an amortization factor for capital cost for equipping all five of the regional stockpiles and providing office equipment and computers for the headquarters.
- o Both the initial costs and the annual operating budget should be borne by industry. An equitable manner for sharing such costs has already been developed with the formula used to fund Cristal Ltd. pursuant to the Cristal contract. Cristal is an arrangement amongst oil cargo owners to provide compensation to victims of tanker related oil pollution who would not otherwise be fully compensated by tanker owners (or bareboat charterers). In simplified terms, the Cristal formula as applied to PIRO would provide that each company would, at the commencement of each calendar year (or in the first year on the "start-up" date), report to PIRO the quantities of crude and heavy fuel oil carried by sea that were received by it at facilities in the United States during the prior year, and these

would be the basis for calculating that company's contribution to PIRO. The company's annual contribution for any year would be based on a percentage of the total required contribution that is arrived at by the ratio that its prior year's crude and heavy fuel oil reported receipts bear to the total crude and heavy fuel oil receipts reported in the previous year by all companies; however, all companies would be required to contribute at least a minimum amount which would be set by the Directors of PIRO on an annual basis.

- o Since PIRO would operate essentially as a contractor to either the Coast Guard or, as an approved second line of defense in local spill situations, to an industry member, the costs of responding to a spill would be charged out to the contracting party in a normal, commercial manner. Since industry would be bearing the start-up and operating costs of PIRO in proportion to use and potential risk, there is no need for the different levels of user fees often adopted by cooperatives having limited participation or different levels of participant investment. By using rates equivalent to other area contractors, PIRO avoids undercutting local contractors. Similarly the use of commercial rates will further encourage industry members to maintain high standards of spill prevention and response within their own organizations. Any excess funds generated by the contracting fees would be used to offset PIRO's annual operating costs.

INDUSTRY OVERSIGHT

- o PIRO will act as an independent contractor; however, it will have a Board of Directors to which it is ultimately responsible. It is suggested that the Board be comprised of seven voting members and one non-voting (advisory) member. Four of the seven voting members (including the Chairman) could be selected on a rotating basis from the dozen or so companies making the largest contribution to PIRO. Two more voting Directors will be drawn on a rotating basis from the remaining industry members. The President of PIRO would be selected by these six Directors and then be appointed the final voting Director. The advisory member on the Board should be a representative of the Coast Guard.

EXHIBIT A

Reported Oil Spill Incidents on U.S. Waters

- o Focusing on the last three reported years (1984-86), certain patterns emerge. While these patterns may be somewhat useful in anticipating future oil spill response activity, we should not place too much reliance on them since there were no truly catastrophic spills reported during the period and a single incident like the Valdez spill would necessarily totally skew these statistics. In fact, the Valdez spill was more than twice the total volume reported spilled in 1986.
- o One pattern that emerges is that more than 60% of all the oil spill incidents take place in either river channels, ports and harbors or the coastal area within three miles of shore. Only 10% of the reported incidents occur outside the three-mile zone. The differences between actual volume spilled in those locations is even more dramatic. Over the last three years, roughly 76% of all the oil spilled was spilled in the river channels, ports and harbors or within three miles of shore, while only about 4% was spilled outside of the three-mile zone.
- o Looking at these figures from a geographic point of view, one thing that does stand out is that the Great Lakes area was very low in both number of incidents and volume, averaging less than 2% of the total volume spilled on an annual basis over the three-year period. With the exception of the Great Lakes area, there was no clear-cut geographic pattern that emerged.
- o The highest volume sources of spills were tank ships and tank barges, together accounting for over 70% of the volume spilled during the three reported years. Interestingly, refineries and bulk storage terminals average less than 10% of the volume spilled over this three-year period and the volume spilled at marine fuel transfer facilities was virtually negligible. In terms of type of product spilled, crude oil and diesel oil were consistently the highest volume product spilled averaging between them well over 50% of the volume spilled. Focusing on the causes for these spills, almost 50% are unknown, but of the 50% that could be identified, hull rupture and tank rupture account for the vast majority of the spills.
- o Looking at the size of the spills that were reported during this period, in 1984 there were only three spills in excess of a million gallons but they made up well over 50% of the total volume spilled for that year. Similarly, in 1985 there were four reported spills in excess of a million gallons and those four spills accounted for almost 73% of all oil spilled. In 1986, there were no spills reported in excess of a million gallons; however, twelve reported spills amounted to 65% of all the oil spilled that year.

EXHIBIT B

PETROLEUM INDUSTRY RESPONSE ORGANIZATION

OBJECTIVES

Objective

The following are suggested objectives subject to refinement by the Petroleum Industry Response Organization (PIRO).

Response to Spills

PIRO has been conceived to be, first, a spill response organization. In this regard, PIRO will work with local cooperative managers to enhance their contingency planning and assure joint response is properly preplanned. The enhanced plans will include mechanical recovery, dispersal and shoreline cleanup. For response to spills where a spill exceeds local capability, other PIRO Regions would be cascaded toward the scene to assist, with PIRO headquarters management providing a coordinating role for PIRO resources and a greater depth of advisory positions in support of the Coast Guard On Scene Coordinator.

PIRO should:

- o be, at all times, ready to respond to spills of oil:
 - partial team response (with/without equipment)
 - full regional team response
 - multi-region team response, cascading other region teams, includes PIRO headquarters team
 - total PIRO response,
- o establish and maintain a manned 24 hour communication center at each region and at headquarters,
- o establish and maintain 24 hour communications at each spill site where PIRO is deployed,
- o maintain all equipment in a full state of readiness,
- o identify and arrange for local cooperatives, or if necessary, commercial fishery, private and public association fleets to deploy medium weight boom for containment.

Training and audits

To maximize the effectiveness of response throughout the country, PIRO will continually conduct audits, training and exercises. It is envisioned that the Coast Guard and industry cooperative managers will participate in these activities.

EXHIBIT B

PIRO should:

- o establish, for each CG OSC zone, a realistic appraisal of overall local capability, to include:
 - industry owned equipment
 - local cooperatives
 - local contractors,
 - with Coast Guard participation
 - repeated annually,
- o establish requirements and provide training:
 - for local industry
 - for cooperatives
 - for contractors in use of PIRO equipment,
- o establish and provide training for boom deployment for commercial fishery, public and private association fleets,
- o provide training in wildlife protection and recovery,
- o conduct training, with actual equipment deployment, with local cooperative participation, in use of PIRO equipment,
- o conduct industry response team training
 - with and without Coast Guard participation,
- o conduct exercises for cooperatives and contractors
 - with Coast Guard participation,
- o conduct joint exercises with cooperatives and PIRO
 - with Coast Guard participation.

Information Services

PIRO should establish and maintain a computer database system that can rapidly provide information on resource location and availability. Constant verification and updating will be required as information will change almost daily. Information should be made available to the Coast Guard On Scene Coordinator in support of local response, even where PIRO itself is not needed.

PIRO should:

- o establish and maintain a resources and information database to support spill response activities,
- o provide information and make presentation to enhance public awareness of spill response capabilities and limitations,

EXHIBIT B

- o work with NOAA to integrate federal and PIRO database networks,
 - extent of integration to be subject for review
- o provide industry with annual updates of activities, provide Board of Directors with monthly updates, provide National and appropriate Regional Response Teams with information on activities.

Communications

PIRO will maintain a continuous 24 hour communications capability that assures rapid notification and coordination with PIRO responders. This same group, using communications personnel from other PIRO Regions should have the capability to provide on scene communications in support of all operating forces.

PIRO should:

- o in addition, coordinate with the National Response Center,
- o maintain all communication equipment and assure FCC licensing of equipment.

TECHNOLOGY

PIRO will need to be at the fore of any research and/or development that might be undertaken to enhance response or mitigate impacts.

PIRO should:

- o coordinate and conduct oil spill research activities on behalf of industry, as appropriate,
- o assist Regional Response Teams in the designation of dispersant use zones and in-situ burning using appropriate ecological database systems,
- o assist conservation experts in identifying needs for wildlife and environmental protection and rehabilitation,
- o coordinate with NOAA's Scientific Support Coordinators.

Administration and Finance

There will be significant financial transactions for PIRO and for the responsible company during response activities. Many contracts will need to be written and administered and must be properly executed. Along with the financial requirements will be significant administrative requirements from audits, reports and on scene documentation.

EXHIBIT B

PIRO should:

- o initiate and maintain appropriate contracts for the maintenance and deployment of equipment using local contractors,
- o provide administrative and financial support for team activities.

Headquarters

PIRO has been developed to support the Coast Guard On Scene Coordinator whether there is an industry response or not. There are sufficient managers within the PIRO organization to support the Coast Guard On Scene Coordinator even where the company spilling the oil cannot, or elects not to, respond. Where a highly trained company response team is activated and on scene, PIRO remains available in an advisory capacity and will continue as contractor for the deployment of equipment. PIRO headquarters will also need to coordinate the 5 regions and the multitude of audits and training programs that will result from regional tasks. PIRO headquarters external coordination activities will also be significant, particularly with the National Response Team and member company specialists. At all times PIRO must be responsive to the needs of industry and the PIRO headquarters will see that this is so.

PIRO headquarters should:

- o coordinate PIRO activities with the National Response Team to assure a mutually supportive response capability,
- o coordinate regional activities,
- o assure readiness of PIRO Regions.

EXHIBIT C

LOCATIONS FOR REGION CENTERS AND PRESTAGING AREAS

The suggested locations for PIRO regional centers and prestaging areas for equipment are preliminary. The Petroleum Industry Response Organization will make more detailed evaluations and adjust the sites as appropriate.

Assumption

The suggested locations for regional offices and prestaged stockpiles do not include Valdez. ALYESKA has, or is obtaining, substantial oil spill response resources with a significant capability for deployment. This enhanced response is being provided by the owners of ALYESKA (though perhaps some linkage to PIRO could be established in the future). PIRO would support a Prince William Sound spill from Region 5, including a possible prestaging location at Cook Inlet.

The United States has existing agreements (joint contingency plans) with its neighbors, north and south. International response has not been addressed herein but it is expected that in the case of catastrophic spill, PIRO would at least be responsive to a request from the U.S. Government or a spiller to deploy its resources in Canada, Mexico or Panama. This subject can be addressed by PIRO under the guidance of its Board of Directors.

General

PIRO Region offices and prestaging locations presented have been selected based on oil movement in ports and harbor areas. Prestaging of equipment for local deployment is necessary to reduce the amount of time required for deployment of lightering equipment (transfer of oil from damaged tanks to sound tanks) and initial spill containment (medium weight boom). Prestaging locations have been located to meet immediate deployment requirements. At some of these proposed locations are industry and Coast Guard facilities which could be available for use. Selection of these prestaging locations will also be dependent upon the availability of local commercial fishery or private vessels to deploy the containment boom.

REGION 1

Region 1 Offices should be considered for the New York tristate area. While the northern part of the region is farther away, the likelihood of an extraordinary oil spill is greater in the southern area.

Possible staging areas:

- o Portland, ME
- o Boston, MA
- o New Haven, CT, or Providence, RI
- o New York area
- o Cape May, NJ

EXHIBIT C

REGION 2

Region 2 Offices should be considered for the Norfolk, VA area. While this is at the northern end of the Region, the exposure is greater.

Possible staging areas:

- o Norfolk, VA
- o Wilmington, NC
- o Savannah, GA
- o Tampa, FL

REGION 3

Region 3 Offices should be considered for the New Orleans, LA area. This is a central location.

Possible staging areas:

- o Mobile, AL
- o New Orleans, LA
- o Houston, TX

A 4th staging area at Corpus Christi should be considered.
A 5th/6th staging area at Panama should be considered.

REGION 4

Region 4 Offices should be considered for the the Long Beach, CA area, a central location.

Possible staging areas:

- o San Diego, CA
- o Long Beach, CA
- o San Francisco, CA
- o Hawaii

REGION 5

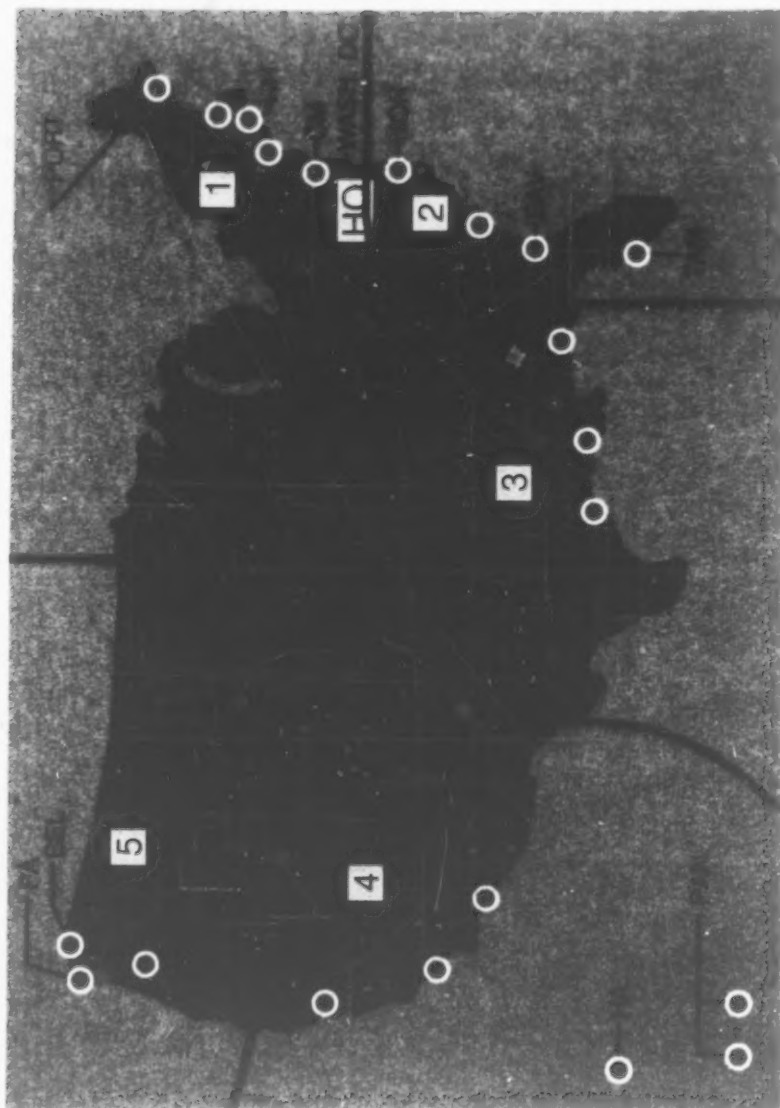
Region 5 Offices should be considered for the the Seattle, WA area, a central location.

Possible staging areas:

- o Portland, OR
- o Port Angeles, WA
- o Bellingham, WA

A 4th staging area at Cook Inlet should be considered.

EXHIBIT C



POSSIBLE REGIONAL AND PRESTAGING LOCATIONS

EXHIBIT D

REGIONAL CENTER CAPITAL EQUIPMENTCapital Equipment

The following are suggested capital equipment and expenditures that PIRO will refine.

General Comments

These comments are intended to clarify the listing of equipment and cost which follow:

- o The oil spill response equipment listed was selected as representative of state of the art equipment designed and constructed to meet offshore conditions. While all equipment for a PIRO stockpile must be air transportable, it is big, heavy and robust. The exception is the medium weight oil spill containment boom which was selected because of its weight, and therefore deployable by vessels more readily available to meet the fast response objective of containment.
- o The cost of this equipment was estimated in many cases. This was done in order to preserve confidentiality. Large offshore equipment is not sold on a day to day basis, in some cases not even on a year to year basis, but is priced on request.
- o In all cases, the costs are in 1989 dollars.
- o The PIRO concept was designed as the final step of tiered response. Tiered response starts at the local facility, then includes local cooperatives and contractors, then includes equipment and personnel from outside the area.
- o PIRO equipment, selected because of its offshore capability, supplements existing equipment at U.S. ports and harbors. Equipment listed is not available from local contractors nor held by cooperatives. Some similar equipment is held by Clean Gulf Associates, LOOP and Clean Seas Cooperative, but not designed for a vessel type release (instantaneous).

EXHIBIT D

REGIONAL CENTER CAPITAL EQUIPMENT

BASED ON 30,000 TON (200,000 BARRELS) SPILL

BEST PRELIMINARY ESTIMATE, 1989 DOLLARS

<u>ITEM</u>	<u>NO.</u>	<u>SUB TOTAL</u>
<u>Lightering</u>		
Pumps, each	4	
Fenders, each	4	
Dracones, each	5	
Sub Total		\$ 770,000
<u>Boom (Containment)</u>		
Offshore Boom	30,000'	
Medium Boom	30,000'	
Skimming Barrier	4,000'	(Included in skimmer cost)
Sub Total		2,700,000
<u>Skimmers (total capacity of 1100 tons (7,400 barrels)/hour)</u>		
Skimming Barrier	4	
Other Skimmers	12	
Power Packs	-	(included in skimmer cost)
Sub Total		3,400,000
<u>Dispersant Equipment</u>		
Adds Pack	2	
Helicopter System	4	
Dispersant Chemical	22,000 gal	
Sub Total		1,248,000
<u>Other</u>		
Vessels, 65'	2	
Office Equip. + Computers		
Communications	incl. 100 radios	
Other		
Protective Boom ✓	10,000'	
Temporary Oil Storage		
Forklifts, Compressors, etc.		
Trailers/Cargo Containers		
Maintenance Shop Equip.		
Vehicles, 4 whl. drive	6	
Sub Total		6,595,000
<u>Equipment Total for one (1) Regional Center</u>		<u>\$14,713,000</u>
<u>EQUIPMENT TOTAL FOR FIVE (5) REGIONAL CENTERS</u>		73,565,000
<u>ASSOCIATED AND UNIDENTIFIED COSTS</u>		2-25,000,000
<u>HEADQUARTERS OFFICE EQUIPMENT AND COMPUTERS</u>		130,000
<u>TOTAL CAPITAL EQUIPMENT</u>		<u>\$75-100,000,000</u>

EXHIBIT E

MODEL FOR BEST CASE EQUIPMENT ARRIVAL TIMES

The following figures show a hypothetical example of response timing to a 30,000 ton (216,000 bbl) spill off the entrance to Delaware Bay. These figures assume no weather delays and that transportation (trucks, aircraft and vessels) are immediately available. They also assume spill response during daylight hours and a long (summer) day. While lightering equipment and the fast response containment boom is supplied from prestaged stockpiles in Cape May and Boston, the remainder of the equipment is routed from the New York PIRO base. The containment boom is actually deployed by local fishermen and other contractors beginning with the prestaged stockpile in Cape May followed by arriving stocks from New York and Boston.

The timing shown includes delivering prepackaged equipment to a staging base in Cape May. (In this example, fixed wing aircraft is the most efficient method of delivery.) Lightering equipment is deployed from Cape May to the distressed vessel by helicopter. Fast response containment booms are delivered to the spill scene by the prearranged local available vessels which also deploy and maintain them. Skimmers remain at the staging area until suitable, larger precontracted vessels arrive.

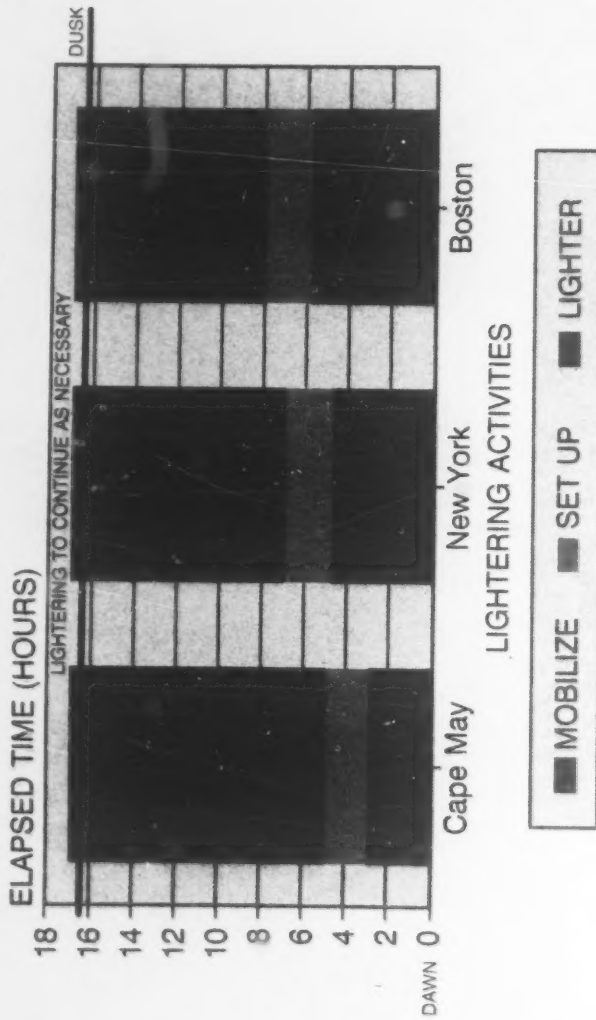
In the case of dispersant operations, the ADDS Pack application system is also delivered by aircraft along with dispersant stocks to the Cape May staging area. A C-130 lands at Cape May where the ADDS Pack is loaded and the aircraft tank filled.

In each of the figures, "mobilize" refers to call out and the delivery of equipment to the spill site where it will be utilized, and "set up" includes all time from then until operational start-up.

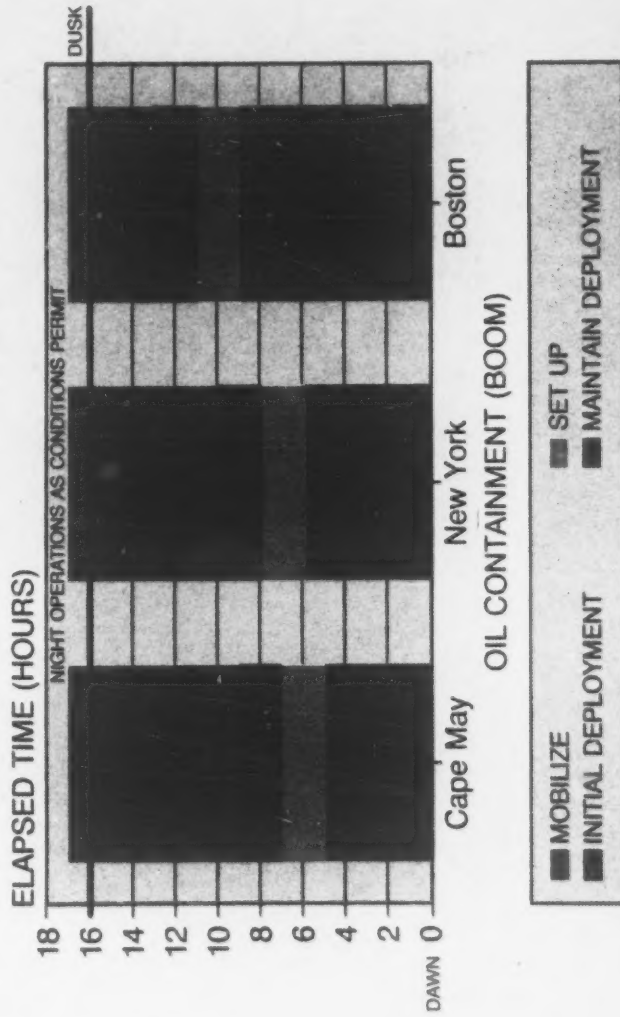
"Deliver to spill" refers to the time it takes the loaded plane to reach the slick, and "initial application" is application time. Further dispersant cycles take a total of four hours per cycle. These include 1) return to staging area, 2) reload with dispersant, 3) return to slick and 4) spray.

The figures assume notification of the New York PIRO base at dawn followed by 16 hours of daylight (summer). It is significant that the first sections of fast response boom will be deployed in seven hours by local fishermen and contractors and that lightering equipment begins pumping after a five-hour period. Dispersant application begins after six hours. All operations except lightering and boom maintenance are suspended for darkness.

CONCEPTUAL RESPONSE TIMING (BEST CASE)
BOST., N.Y., & CAPE MAY STOCK PILES
(RESPONDING TO A 30M TON DEL. BAY SPILL)

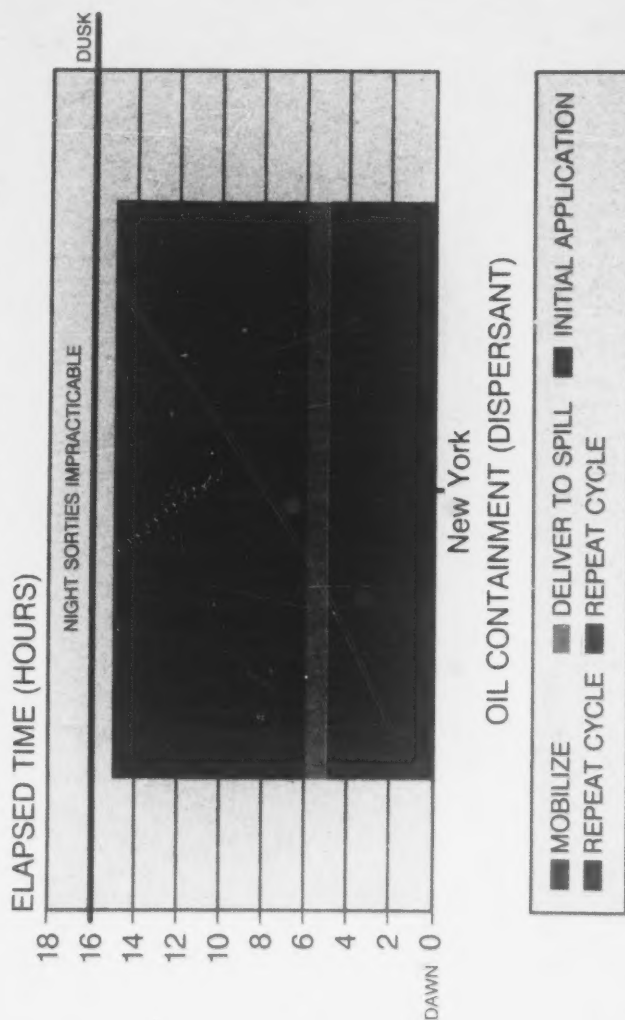


CONCEPTUAL RESPONSE TIMING (BEST CASE)
BOST., N.Y., & CAPE MAY STOCK PILES
(RESPONDING TO A 30M TON DEL. BAY SPILL)



LOCAL FISHERMAN, COOPERATIVES, AND CONTRACTORS PARTICIPATING

CONCEPTUAL RESPONSE TIMING (BEST CASE)
NEW YORK STOCK PILE
 (RESPONDING TO A 30M TON DEL. BAY SPILL)



CONCEPTUAL RESPONSE TIMING (BEST CASE)
 NEW YORK STOCK PILE
 (RESPONDING TO A 30M TON DEL. BAY SPILL)

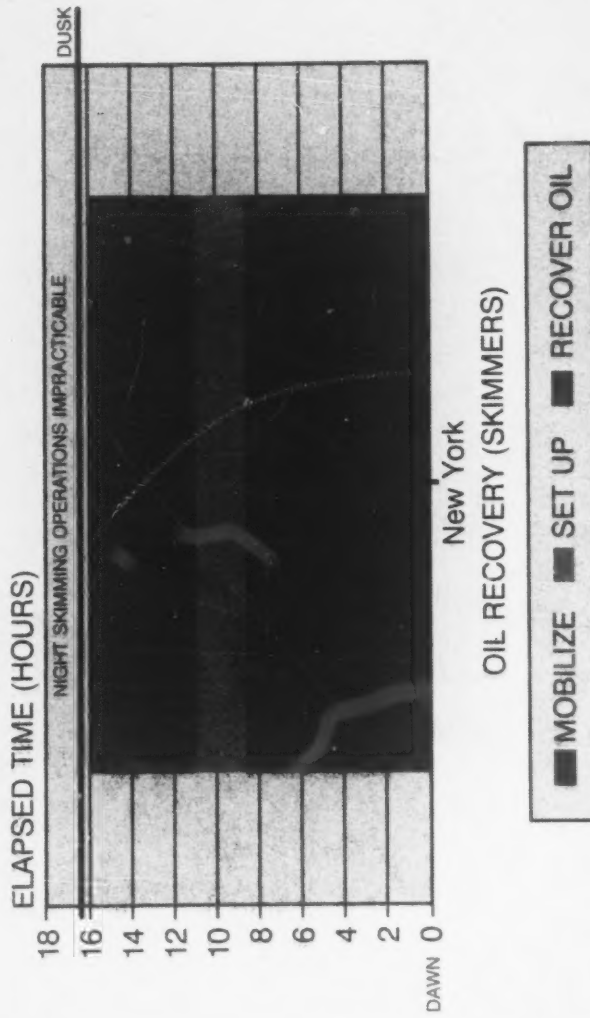


EXHIBIT F

ANNUAL OPERATING EXPENSES FOR INDUSTRY RESPONSE ORGANIZATION
(PRELIMINARY ESTIMATE 1989 DOLLARS)

HEADQUARTERS AND FIVE REGIONAL CENTERS	ESTIMATED ANNUAL COST
Salary and Benefits ¹	\$12,725,000
Training and Travel Costs ²	3,000,000
Facility Leases ³	3,600,000
Contractor Maintenance of Equipment ⁴	100,000
Depreciation ⁵	7,400,000
Spare Parts ⁶	1,100,000
Utilities ⁷	1,000,000
Administrative ⁸	500,000
Associated and Unidentified	\$ 1-6,000,000
TOTAL	\$30-35,000,000

¹Salary and Benefits. Includes 218 full-time employees.

²Training, Auditing and Travel Costs. A large portion (\$1.5 million) of the travel budget will be related to training activities, including drills and simulations. Auditing of local facilities, cooperatives and contractors will require \$0.5 million, with the remaining \$1.0 million allocated to all other travel.

³Facility Leases. Assumes that six facilities will be leased. For each regional center, assume 30,000 ft² of warehouse space at \$15/ft² (\$450,000) plus 10,000 ft² of office space at \$20/ft² (\$200,000), plus \$40,000 dockage to berth 2 vessels. For the five centers, equals \$3,450,000. For headquarters, assume 7,000 ft² of office space at \$25/ft² (\$175,000). Total of \$3.6 million.

⁴Contractor Maintenance of Equipment. Costs for local contractors to periodically exercise the pre-staged equipment that is located remote from regional centers.

⁵Depreciation. 10% of capital. (Estimate of on-going equipment replacement costs,) 1989 dollars.

⁶Spare Parts. 15% of capital depreciation.

⁷Utilities. Assume average annual utility cost of \$5/ft². Regional centers have 30,000 ft² of warehouse space and 10,000 ft² of office space. Headquarters has 7,000 ft² of office space. [207,000 ft² X \$5/ft²=\$1.03 million].

⁸Administrative. Supplies, copier leases, etc.

RESEARCH

OIL SPILL RESEARCH AND DEVELOPMENT OPPORTUNITIESIntroduction

The Oil Spill Task Force has conducted a preliminary assessment of the research and development opportunities related to oil spills. Ship navigation research was not included as computer based mapping and navigation systems are currently being commercialized. The U.S. Maritime Administration is also encouraging the marine equipment vendors and users to develop computer based expert advice and vessel control systems. Petroleum industry expertise was applied to identifying the needs for responding to and mitigating the effects of spilled oil. The needs identified were based on a quick assessment of all prior known research and span the spectrum from science (e.g., better understanding the chemistry and biological effects of spilled oil on the environment) to operations (e.g., use of containment booms in high sea states). The thrust of the R&D program proposed is to work first in those areas where the assessment suggests the greatest potential benefits.

Since the bulk of the proposed R&D programs have operational objectives, it was contemplated they would be managed by the Petroleum Industry Response Organization (PIRO). The staffing needs for this function have been incorporated in the proposed PIRO organization detailed in the Response to Catastrophic Spills section of the report. It is recognized that the American Petroleum Institute has agreed to share in the cost of a \$6 M research effort by Department of Interior on oil spill technology. It is also recognized that, in the past, API health and environment groups devoted attention to oil spill fate and effects. Some further discussion among PIRO, DOI, and API would be needed to fine tune the R&D management responsibilities to avoid duplication, gaps, or inefficiencies.

Overall Program

Based on contributions from industry and other oil spill response (OSR) experts, an overall program of \$30 to 35 M has been identified with six major objectives and prioritized to be executed over 5 years:

Objective	Estimated \$k/yr.	
	Year 1 and 2	Years 3-5
• Preventing Loss From/Away from Ship	150	150
• On-Water Oil Recovery and Treatment	2,650	1,850
• Preventing and Mitigating Shoreline Impact	3,450	1,675
• Fate and Effects of Oil in the Environment	2,100	1,100
• Wildlife Preservation	700	150
• Health and Safety	300	50
Total Per Year	9,350	4,975
Overall for Period	18,700	14,925
Grand Total	33,625 (\$30-35 M)	

The front-end loaded first five years is intended to build an enlarged OSR technical base, to be followed by a continuing effort which would likely be in the \$1 to 4 M per year range.

Initial consideration of organizations to execute individual programs suggests that there are several potential alternatives for most programs, and that PIRO will need to provide guidance and focus to ensure that proposal requests are invited from the most capable organizations.

The program proposed provides a general guide for the types and levels of R&D initiatives. Detailed guidance and peer review will be required as specific programs and projects are progressed. As the proposed research is undertaken, the results, or new related research results, could change the priorities and the allocation of funding. There will need to be a continuing reassessment of R&D opportunities throughout the effort.

Program Development

The proposed program outlined is intended to cover new technology ideas as well as developed areas where further work might be needed to fill data gaps or provide information to ensure timely/effective application. This preliminary program has been reviewed by industry experts and opinions sought from representatives of EPA, Battelle, Environment Canada, International Tanker Owners Pollution Federation, and from Academia to provide a broad representation of opinions. Input was sought on priorities, size of program, timing, and recommended organizations to execute programs.

Priorities were requested on a high, medium, low basis for each of the objectives areas. The criteria which the reviewers considered included:

- Needed for approval of contingency plan
- Potential for significant enhancement of clean-up efficiency
- Fill critical science gaps
- Fill critical practical use/application/technology transfer gaps
- Needed to protect people
- Needed to protect endangered/critical wildlife

These criteria are not in priority order, nor do all apply to every area, but they are intended to provide a framework for assessing needs. Contributors also provided their opinions on potential costs and timing for suggested programs as well as possible organizations to execute them including:

- Industry (Companies, Trade Associations)
- Academia
- Non-Profit Research Organizations
- Government
- Consultants
- Equipment Vendors

Discussion of Individual Research Areas

Summarized below are issues and major programs associated with each research area, with particular note of programs where contributors had significantly divergent opinions on the levels of funding needed.

- Preventing Loss From or Retaining Oil Near a Ship (\$750k) appears, on the surface, as an attractive means to minimize spill size and potential environmental damage. However, the search for new ideas revealed significant safety and practical problems associated with on-board tanker spill response

techniques. The proposed budget (\$750 k Total) reflects the state of research leads and safety concerns as to retaining volatile oil near a vessel in distress. Research areas include continued work on booms and investigating the possibility of spraying chemicals on released oil from the ship - surfactants to disperse oil or other agents to potentially reduce volatility and/or thicken oil to make it less mobile and easier to recover.

- A number of programs have been suggested for On-Water Oil Recovery and Treatment (\$10.85M). Dispersant work received broad support and issues center largely on identifying information gaps in an already broad data base to enable acceptance for contingency plans, with the major area being potential toxicity of the dispersed oil (not the dispersant itself). Skimming work was generally supported with main issues being improved reliability, pumping capabilities, and operating with ice/debris/vegetation. Sorbent, gel, and elastomer treatments were viewed by one organization as a significant potential aid in keeping oil off shorelines.

- Preventing and Mitigating Shoreline Impact. (\$11.925M) Prevention is viewed as a high priority need, but the assessment revealed a lack of promising research leads. One organization felt very strongly that shorelines need to be protected and suggested searching for a good alternative, while others felt there is little hope of preventing oil from affecting the shoreline and we should concentrate elsewhere. Suggested work is equally split between booms and chemical treatment alternatives. Although bioremediation may be the least damaging and least costly way to Mitigate Shore Impact, the state of development, level of regulatory/public acceptability and long treatment times resulted in low support from some reviewers. Nonetheless, this is generally viewed as a high priority area and there was general support for shore mitigation areas with particular emphasis for work on handling and disposal of oil debris and waste oil.

- Fate and Effects (\$7.5M) work was generally supported with work selected to maintain a credible, scientifically sound program. Work on the physical and chemical fate was highly rated because these reactions and transformations determine the oil condition/state which drives clean-up technologies. It was felt that much is already known about biological fate and effects and a high medium rating is in support of work targeted for use in determining the lowest environmental impact scenarios for cleanup options when developing contingency plans. There is a need for baseline aquatic data and this should be gathered through government oceanographic vessel programs - no provision is included here for this work.

- Wildlife Protection (\$1.85M) overall was rated a high medium reflecting the great concern for this issue but also the belief that much is already known and that there is a low probability of identifying new techniques for deterring/repelling or handling and cleaning birds and mammals. The most promising current idea which was expressed is to develop a pre-assembled hospital which could be in trailer(s) as part of an overall response equipment stockpile.

- Health and Safety (\$750k) was highly rated with activities concentrating on public welfare issues such as protecting potable and power plant intake water supplies, and on industrial hygiene issues associated with personnel exposure while working close to spilled oil.

Potential R&D Opportunities in Oil Spill ResponseBudget and Priority Summary(1)

<u>Funded Programs</u>	<u>Rating</u>	<u>k\$/yr</u>	
		<u>Year 1 & 2</u>	<u>Years 3 - 5</u>
• Prevent Loss From/Away From Ship			
- Mechanical Booms	H	100	100
- Chemical Treatment From Ship	H	50	50
		150	150
• On Water Oil Recovery and Treatment			
- Chemical Dispersants	H	1,000	500
- Booms	H	300	300
- Skimmers	H	500	500
- Sorbents, Gels, Elastomers	H	250	100
- In-Situ Burning	M+	250	250
- Standard Performance Testing	H	50	-
- Tracking and Surveillance	H	300	200
		2,650	1,850
• Prevent and Mitigate Shoreline Impact			
- Chemical Washing and Oleophobic Shore	M+	100	100
- Booms	H	100	100
- Absorbents and Adsorbents	H	500	250
- Shore Washing	H	200	100
- Bioremediation	H	2,000	1,000
- Debris and Waste Disposal	H	500	100
- Ecosystem Effects/Recovery	H	50	25
		3,450	1,675
• Fate and Effects			
- Physical/Chemical	H	500	250
- Biological	M+	1,500	750
- Coordination Institute	H	100	100
- Oceanographic Research Vessel(s)	M+	(2)	(2)
		2,100	1,100
• Wildlife			
- Repelling Wildlife	M+	100	50
- Cleaning Affected Animals	M+	500	100
- Natural Resources Damage Assessment	H	100	150
		700	150
• Health and Safety	H	300	50
Total per year		9,350	4,975
Overall for Period		18,700	14,925
Grand Total			33,625 (30-35M\$)

- (1) All H and M+ priorities included for funding.
 (2) Assume covered by government (NOAA) programs.

Currently Not FundedRating

- Prevent Loss From/Away From Ship
 - Chemical Boom M
 - Gelation L
 - Chemical Herder L
 - Self-Sealing/Plugging Tanks L
- On Water Oil Recovery and Treatment
 - Chemical Herder L
- Preventing Shoreline Impact
 - Chemical Herder L
- Mitigating Shore Impact
 - Steam Cleaning M
 - Synergistic Combinations of Adsorbents, M
 - Absorbents, and Chemicals
 - Beach Cleaning Machines M
 - Beach Incineration L
- Wildlife
 - Chronic Effects M
- Health and Safety
 - Workplace hazards M
 - Cleanup crew living conditions L

Potential R&D Opportunities
In Oil Spill Response

The following is a discussion of the research areas summarized on pp. 35-37:

<u>Section</u>	<u>Title</u>
1	Preventing Loss From/Away From Ship
2	On-Water Oil Recovery and Treatment
3	Preventing and Mitigating Shoreline Impact
4	Fate and Effects of Spilled Oil
5	Wildlife
6	Health and Safety

Notes:

- Overall priority given to research areas with additional prioritization of individual activities for internal program guidance. Potential criteria considered included:

Needed for contingency plan approval
 Potential significant enhancement of cleaning efficiency
 Fill critical science gaps
 Fill critical practical use/application/tech transfer gaps
 Needed to protect people
 Needed to protect endangered/critical species

- Potential organizations who could/should execute programs included:

Industry (Companies, Trade Organizations)
 Academia
 Non-Profit Research Organizations
 Government
 For-Profit Consultants
 Vendors

1. PREVENTING LOSS FROM/AWAY FROM SHIP

Preventing/minimizing oil loss from a holed ship and keeping oil near the ship would both appear to be attractive as far as minimizing spill size and potential environmental damage. However, the practical issues of dealing with potentially large volumes of oil in a short time period appear to have resulted in a low number of research leads. Also, since this response would likely have to be executed by the casualty's crew, it is questionable whether they would be able to avert their attention from dealing with saving the ship and/or themselves. Finally, there is a safety concern regarding the advisability of intentionally retaining volatile spilled oil next to a stricken vessel.

Mechanical Booms - HIGH Overall Priority
 - 500 k\$ Total
 - 100 k\$ per year for five years

Recognizing the safety issue noted above, the ability to retain oil near the ship would allow recovery of a more concentrated/thicker slick and minimize potential environmental damage.

Activities:	Rating	Potential Program Execution
- Development activities need to be targeted at major boom issues in close to a ship, ie. high sea states and thick oil layers.	H	Government Vendors Consultants
- Booms located onboard a tanker would provide for rapid deployment, however the crew will likely be too busy with the vessel emergency to deploy booms.	M	
- Although there were some issues in boom attachment around the Exxon Valdez after refloating, these are felt to be easily workable.	L	

Chemical Treatment from the Ship - HIGH Overall Rating
 - 250 k\$ Total
 - 50 k\$ per year for 5 years

Although the crew will be engaged dealing with the casualty, there is the potential that spraying chemicals on escaping oil could be done with minimum resources and have a very beneficial effect. Possibilities for delivery systems could include storage in dedicated ballast tanks with delivery using fire monitors or simple hosing arrangements. Potential chemicals include dispersants and thickening agents (see descriptions under ON WATER OIL RECOVERY AND TREATMENT).

Activities:

- Evaluate types of chemicals and delivery systems appropriate for onboard use.

Rating

H

Potential Program Execution

Non-Profit Res. Org.
Industry

Chemical Boom - MEDIUM- Overall Rating

Conceptually, a gel or other thickening agent could be sprayed in or near the edge of a slick to form a "chemical boom" and keep oil from spreading. Many practical issues associated with application, boom integrity, potential to sink, etc. resulted in a MEDIUM-rating.

Gelation - Low Overall Priority

Gelation agents are formulations that mix with oil to form a gel which will not flow. One could consider applying to a whole tank to prevent loss, however high required concentrations and mixing energy make this impractical. Applying near a hole to plug it has many practical obstacles, as well as issue that current formulations are water sensitive.

Chemical Herders - LOW Overall Priority

Herders are chemicals which due to their properties will spread on the water's surface and literally push oil as they do so. Conceptually, they could be applied in such a way as to herd an oil slick to a desirable location. However, they only work on very thin oil layers and the likelihood of developing more practical formulations/chemicals and overcoming many other logistical concerns resulted in a low rating for this technology.

Self-Sealing/Plugging Tanks - LOW Overall Priority

Liners or films to provide self-sealing similar to tubeless auto tire. Conceptually attractive but no leads.

2. ON WATER OIL RECOVERY AND TREATMENT

This area includes all treatment and recovery activity while oil is on the open water - after leaving the vicinity of the ship and before getting near the beach. Aside from true open-ocean situations where only this technology will be required, dealing with oil at this stage of a spill also provides the opportunity to minimize environmental damage and recover/treat more efficiently than after impacting a shoreline.

Chemical Dispersants - HIGH Overall Rating
 - 3.5 M\$ Total
 - 2 M\$ years 1 and 2, 1.5 M\$ years 3 through 5

Dispersants are surfactant formulations which are sprayed on floating oil from either a boat or aircraft forming finely divided droplets. These droplets get distributed in the water column providing opportunity for enhanced biodegradation, and they will not coat out on wildlife, fish, or beaches.

Activities:	Rating	Potential Program Execution
- Potential toxicity of dispersed oil to marine life remains as the highest area of concern for the regulatory/scientific community. Need to better define potential exposures and concentrate toxicity studies on sublethal levels to zooplankton, fish eggs, and larval and planktonic life stages of fish and shellfish. Biodegradation of dispersed oil in the water column is important part of this area.	H	Academia Non-Profit Res. Org. Government
- There are conditions (weathered oil, emulsion/"mousse" formation, low wave energy, thick oil layer, low temperature) under which dispersant effectiveness may not be optimal. Identify data gaps on effectiveness and improve through enhanced surfactant technology.	H	Industry Academia Non-Profit Res. Org. Vendors
- There are areas such as shallow water where dispersant use may need to be limited. Identify limitations and resolve through dispersant formulations.	H	Industry Academia Non-Profit Res. Org. Vendors
- Although dispersant use has been extensively researched and developed by industry, the scientific, regulatory and environmental communities are still uncomfortable with its use. Gain acceptance for inclusion in contingency plans through a protocol to fill required information needs, frequent information exchanges (workshops, etc.) with those concerned, and development of a Risk Assessment with presentation using risk communication tools.	H	Industry Government Consultants
- Including nutrients in dispersant molecules to enhance biodegradation is an appealing concept, however there was concern as to how much real "enhancement" would occur (ie, are nutrients limiting).	M	

Chemical Dispersants (con't)

Activities:

RatingPotential Program
Execution

- Although there is some public concern re the toxicity of the dispersants themselves, most knowledgeable in the area feel this is well understood and not a problem. Natural dispersants produced by organisms or derived from plants, etc. would help deal with this perception.

L

Booms for Containment and Collection - HIGH Overall Rating
 - 1.5 M\$ Total
 - 300 k\$ each year for five years

Booms can be used to simply surround and contain a slick, or to collect surface oil by towing slowly with a boat at either end and then collecting/skimming the oil at the apex.

Activities:

RatingPotential Program
Execution

- Booms have been shown to lose effectiveness (oil going over and under) in very moderate sea states and when towed at, or in currents of, greater than about .7 knots. Boom effectiveness is also severely impaired in the presence of ice, natural growth (kelp, etc.) and other debris. These limitations need to be addressed through improved/novel designs.

H

Vendors
 Government
 Consultants
 Non-Profit Res. Org.

- Open ocean booms are very large devices and design improvements, such as lighter materials, would enhance the ability to rapidly deploy a boom as well as potentially increase the amount of boom a response vessel could carry. Not a high priority due to feeling that potential improvements will provide marginal enhancement - booms are large and will still be large.

M

- Booms with sorbent material in them appear to be an attractive concept, however there is concern as to the logistics of handling these large oil soaked devices.

M

- Skimmers - HIGH Overall Priority
 - 2.5 M\$ Total
 - 500 k\$ per year for five years

There are several types/configurations of skimmers. They can move about independently skimming oil from the surface, be positioned to remove oil from the apex of a boom, or be stationary or towed with booms on either side to direct oil to them. Water and other material will be brought onboard with the oil (which often has water emulsified in it, i.e. "mousse"). Some skimmers also provide for separating the oil and other materials, and storage for the final recovered "oil" must be provided on the skimmer or a companion vessel.

Activities:	Rating	Potential Program Execution
- The Service Factor (i.e., actual time spent skimming) can be increased in several ways. Limitations associated with storing recovered material can be addressed through larger storage systems and/or better onboard oil/water separation using chemicals, coalescers, hydroclones, etc. The ability to pump heavy emulsions, especially when containing seaweed, kelp, etc. is also a major area of concern. Overall, need to look at debottlenecking skimmer operations through a systems approach which would include mechanical reliability issues.	H	Vendors Government Consultants Industry
- Ice and floating debris inhibit skimmer operation and new/novel approaches should be developed.	H	Vendors Government Industry
- Response time and local availability of specially designed skimming vessels is a concern. Should consider standardized skimming systems which could be outfitted on vessels of opportunity (fishing vessels, etc.)	H	Consultants Vendors Government
- Increasing actual skimming capacity could be accomplished through larger vessels and/or better technology. Large vessels exist and issue appears to be one of number of vessels and logistics. No significant new technologies apparent for high volume oil pick up.	M	
- Skimming equipment onboard a tanker would make it readily available at the scene. However, identifying acceptable equipment, maintaining it, and deploying it (crew busy dealing with the shipboard emergency that caused the spill) are all significant issues.	L	

- Sorbents, Gels, and Elastomers - HIGH Overall Rating
 - 800 k\$ Total
 - 500 k\$ years 1 and 2, 300 k\$ year 3 through 5

There are various materials and chemicals which, when applied to floating oil, can change its characteristics - immobilizing/thickening it making it less likely to spread and easier to recover.

Activities:	Rating	Potential Program Execution
- Effectiveness of various options in immobilizing and enhancing recovery of spilled oil needs to be summarized, and data gathered/testing done on promising leads where required. Should be worked in a systems approach recognizing need to collect, handle, and dispose of recovered material.	H	Non-profit Res. Org. Academia Vendors Industry
- Encourage development of materials which can be applied in large volume and then recovered by fishing vessels using standard nets. Rating reflects feeling re probability of success.	M	
- Toxicity and environmental impact testing will need to be done if promising leads are developed.	M	

- Standardized Performance Testing - HIGH Overall Rating
 - 50 K\$ Total
 - 50 k\$ in years 1 and 2

Standardized performance testing/comparison procedures exist in several places for most oil spill response equipment (booms, skimmers, etc.). In order to advance these areas, these procedures need to be reviewed to ensure adequacy and then summarized in a coordinated way.

Activities:	Rating	Potential Program Execution
- Building on existing ASTM, EPA OHMSETT data, etc. coordinate standardized testing procedures for oil spill response equipment. Recommend development activities if needs identified.	H	Government Vendors Industry

- Tracking and Surveillance - HIGH Overall Rating
 - 1.2 M\$ Total
 - 600 k\$ years 1 and 2, 600 k\$ years 3 through 5

In order to effectively clean up a spill, the locations and characteristics of oil on the water and beach must be known so that proper resources can respond. Tracking of oil on the water is especially important since the slick can move a significant distance in the time required for a cleanup vessel to arrive. Also, remote sensing of properties such as oil thickness would allow better coordination re the type of equipment sent for a specific patch of oil.

Activities:	Rating	Potential Program Execution
- Development of remote sensors for locating slicks and oiled beaches, oil thickness, oil under ice, etc. would allow better allocation of resources and provide data for tracking models.	H	Vendors Government Non-profit Res. Org.
- A standard Field Analysis Kit for determining spilled oil properties, behavior, and water impacts could be used in providing data to determine best spill response.	H	Vendor Government Industry
- Build on computer tools available for emergency and military situations, and develop oil spill computer tools for data handling, analysis, and presentation, and spill management.	H	Non-profit Res. Org. Government Vendors
- Seek leads to enhance the capability of spotter aircraft to identify spill areas and stay with them long enough to ensure adequate response. Rating reflects lack of leads.	M	
- It is felt that current mapping and geographic capabilities are adequate and that current satellite resolution is not sufficient to provide a meaningful enhancement.	M	

- In Situ Burning - MEDIUM+ Overall Rating
 - 1.25 M\$ Total
 - 250 k\$ each year for five years

Controlled burning of oil while on the water surface provides the possibility to significantly reduce the quantity of oil and potential overall environmental impact. Work has been done to show that this is a potentially viable alternative.

Activities:	Rating	Potential Program Execution
- Build on existing work to identify unresolved issues concentrating on workability and safety under various conditions (sustaining and controlling burning on weathered crude, mousse, etc.), as well as pollution tradeoffs (impacts of residues and combustion products in air) in a risk assessment framework.	M+	Government Industry Non-Profit Res. Org.

Chemical Herders - LOW Overall Priority

Herders are chemicals which due to their properties will spread on the water's surface and literally push oil as they do so. Conceptually, they could be applied in such a way as to herd an oil slick to a desirable location. However, they only work on very thin oil layers and the likelihood of developing more practical formulations/chemicals and overcoming many other logistical concerns resulted in a low rating for this technology.

3. PREVENTING AND MITIGATING SHORELINE IMPACT

Oil impacting on a shoreline will result in the highest levels of environmental damage and cleanup difficulty. Therefore, any prevention actions that can be taken prior to shore contact would be appropriate. Possibly, new leads will be uncovered in the future. Unfortunately, the suggested level of effort reflects a lack of good research leads in this area.

Mechanical Booms - HIGH Overall Priority
 - 500 k\$ Total
 - 100 k\$ per year for five years

Mechanical booms at this stage of a spill could be used to physically prevent oil from hitting the beach and allow for skimming; or, since adsorbents may be used on the beach in any case, it could be appropriate to use absorbent booms at this time.

Activities:	Rating	Potential Program Execution
- Identify the best systems for use in shallow water in the presence of tidal surge and wave action	H	Government Vendors Consultants Industry

Chemical Treatments - MEDIUM+ Overall Rating
 - 500 k\$ Total
 - 100 k\$ per year for five years

There are several general approaches using chemicals to prevent shoreline impact. An agent such as a chemical herder could be applied in the water thus "pushing" floating oil away from the shoreline. Water and/or chemical washing could be used continuously at the water's edge to prevent oil from coating the shore. Finally, an agent could be applied to the shore to render it non-oil wetting (oleophobic).

Activities:	Rating	Potential Program Execution
- Identify effective water/chemical washing formulations considering effectiveness on "mousse", wave action/tidal surge issues, and effects on inter-tidal life.	M+	Academia Non-Profit Res. Org. Industry
- Evaluate what types of chemicals could be sprayed on a shoreline rendering it oleophobic. Consider application methods, effects of wave action and weathering, effects on marine life, and ultimate fate of the applied chemicals.	M+	Academia Non-Profit Res. Org. Industry
- Low probability of success with oil herder based on issues around wave action, break up/effectiveness time, and effectiveness on emulsions.	L	

Once oil has impacted on a shoreline, there are many possible alternatives for cleanup. Some are quick to implement (adsorbent pads) while others require a significant amount of time (bioremediation). Most will work better on certain types of beach/habitat versus others (sand vs. rock coastline, mangrove, coral reef, etc). For individual shoreline cleanups the choice of technology will depend on the environmental tradeoffs involved: some technologies will cause significant disruption to the biota and even though they are quick cleanups may not be preferred; an area may need to be cleaned up quickly accepting disruption of lower life forms if for instance sea lions will be using it as a rookery; etc. Individual technologies summarized below need to be evaluated as to their roles in this overall framework of response.

Absorbents/Adsorbents/Chemical Treatments - HIGH Overall Rating
 - 1.75 M\$
 - 1.0 M\$ years 1 and 2, 750 k\$ years 3 through 5

A traditional beach cleanup technique is the use of absorbent pads and other materials to "mop up" the oil. This is very inefficient and generates large quantities of oily waste material. Use of absorbent/adsorbent powders and formulations which could be sprayed on a beach and picked up in some efficient manner would be a significant improvement. The extreme end of this chemical treatment approach would be using elastomers or polymers that react with the oil and form a sheet that can be picked up.

Activities:

	Rating	Potential Program Execution
- An overall program should address absorbent and adsorbent pads/materials/powders/formulations. Thoroughness of cleaning must be considered as related to effectiveness on emulsions, ease of material pick up, effects on the local biota, and type/quantity of material for final disposal. Acceptableness of natural adsorbents versus high pick-up synthetics should be evaluated. Overall objective is to identify the best materials for various cleanup situations providing low cleanup costs and minimal biological impact.	H	Academia Non-Profit Res. Org. Industry
- Forming chemical sheets which are removed in large sections was felt to have too many practical limitations and potential for significant damage to the biological community.	L	

- Water Washing - HIGH Overall Rating
 - 700 k\$ Total
 - 400 k\$ years 1 and 2, 300 k\$ years 3 through 5

Water can be sprayed from a perforated pipe or hose at the top of a beach, thus washing oil into the water where booms direct the oil to a skimmer. This action can be enhanced using higher pressure and/or temperature, and through the addition of surfactants. Care must be taken to ensure that a surfactant added to clean the beach does not severely impact skimming or further recovered oil/water separations.

Activities:	Rating	Potential Program Execution
- Overall program to address effectiveness of water/temperature/surfactant combinations as related to measure(s) of crude "stickiness" (asphaltene content?) and state of weathering/emulsification. Should address issues of driving oil into beach surface, preventing re-oiling after treatment, and mechanical/temperature/chemical effects on local biota.	H	Non-Profit Res. Org. Industry

- Bioremediation - HIGH Overall Rating
 - 7 M\$ Total
 - 4 M\$ years 1 and 2, 3 M\$ years through 5

Bioremediation is the use of microbes to biodegrade spilled hydrocarbon molecules in place - such a biodegradation step is common in most refinery and petrochemical wastewater systems. The microbes could be naturally occurring in the spill area (indigenous) or they could be non-indigenous naturally occurring or engineered microbes, and nutrients could be added to enhance their activity. Bioremediation is potentially the least damaging and least costly cleanup option. However, cleanup times are very long (perhaps years) and significant scientific and practical/application issues must be addressed.

Activities:	Rating	Potential Program Execution
- For all potential bioremediation beach types and habitats baseline assay data must be taken and standard procedures/protocols must be established for continued monitoring, control tests, and sample collection/handling/analysis.	H	Government Academia Non-Profit Res. Org.
- Since most bioremediation options will extend over long periods of time, it is especially important to reach consensus on an end point- "How clean is clean?" must be defined for these systems.	H	Government Industry

Bioremediation (con't)

Activities:	Rating	Potential Program Execution
- Use of indigenous micro-organisms is by far the preferred alternative. At times a course of non-intervention and reliance on natural processes may be appropriate, while nutrient enhancement may be preferred in certain situations. Program should address when non-intervention versus nutrient enhancement is appropriate and for nutrient enhancement the best packages for a given habitat/environment/type of spill, nutrient effects on local environment (algae blooms), etc.	H	Non-Profit Res. Org. Academia Industry
- Growing concentrated cultures of indigenous microbes and inoculating fouled areas has been suggested. However, logistical issues are a concern and the overall efficacy of such an approach has been questioned.	M	
- Including nutrients in synergistic packages with dispersant formulations to enhance biodegradation has been considered, however there are concerns as to the level of real enhancement that would occur.	M	
- A final "grooming" treatment package that would be applied to an area as the last step to put the local biota back on their feet was considered. However, this was felt to be covered in the general bioremediation approach.	L	
- Scientific and public concerns re introducing non-indigenous microbes, especially engineered ones, are of such a magnitude that no work is suggested.	L	

Debris/Waste Oil - HIGH Overall Rating
 - 1.3 MS Total
 - 1.0 MS years 1 and 2, 300 k\$ years 3 through 5

Handling and disposal of oily debris and waste oil/emulsion from a major spill is in itself a major task. This issue should be addressed in the contingency plan in a systems approach identifying which types/magnitudes of spills should use which shoreline cleanup techniques so that cleanup is effectively accomplished while generating debris and waste oil in reasonable quantities and of types that can be handled.

Activities:	Rating	Potential Program Execution
- Identify best approaches (onsite/offsite incineration, burning, landfilling, etc.) for oily waste/debris and summarize in a fashion that can be used as basis for contingency plans.	H	Industry Non-Profit Res. Org. Vendors Consultants
- Identify best approaches for waste oil (incineration, refinery rerun, etc.) and summarize for contingency plan use.	H	Industry Non-Profit Res. Org.

Ecosystem Recovery - HIGH Overall Priority

- 175 k\$ Total

- 100 k\$ years 1 and 2, 25 k\$ years 3 through 5

The comparative recovery of ecosystems after various remediation alternatives is extremely important. Although included in individual remediation technology studies, an overall effort is needed to provide a coordinated comparison.

Activities:	Rating	Potential Program Execution
- Reflecting types of potential habitats, identify the relationships between treatment alternatives and quickness of biosystem recovery.	H	Academia Non-Profit Res. Org. Government

Steam Cleaning - MEDIUM Overall Rating

Viewed as marginally more effective than hot water cleaning without as high a potential for surfactant enhancement, but with same concerns as hot wash.

Synergistic Adsorbent/Absorbent/Chemical Combinations - MEDIUM Overall Priority

Combinations may be identified to improve effectiveness - adsorbent or absorbent formulations plus polymer to improve pick up, surfactant to lift oil off followed by polymer or adsorbent to improve recovery, etc. Feel this can be progressed later if other areas provide attractive leads.

Beach Cleaning Machines - MEDIUM Overall Priority

Devices that move along the beach using oleophilic belts, removal plus washing, etc. exist and appear to be limited in usefulness with effectiveness being high dependent on type of shoreline, oil type/condition, etc.

Incinerate Contaminated Beach - LOW Overall Priority

This concept involves bringing a portable incinerator onsite, incinerating contaminated portions of the beach and returning the treated sand/rock/etc. to the beach. Concerns as to logistics, incinerator technology, and overall beach disruption and effects on biota all suggested that this be rated as low priority.

4. FATE AND EFFECTS OF SPILLED CRUDE AND PRODUCTS

Once released to the environment the physical, chemical and biological transformations and ultimate fate of hydrocarbons are important in understanding their effects on the environment as well as designing/choosing appropriate cleanup and mitigation measures.

Coordination/Standard Procedures/Research Vessels - HIGH Overall Rating
- 100 k\$ per year continuously

Proper program execution will require central coordination to avoid duplication and ensure smooth flow of data from one program to another. This coordination function (institute?) would also be the focus for standardized procedures and major oceanographic research programs.

Activities:	Rating	Potential Program Execution
- Coordination activity to provide guidance/oversight/experts.	H	Industry
- In coordination with other R&D areas, establish standard sampling, analysis, and testing procedures.	H	Industry Government
- Major oceanographic research vessel activity is required to establish baseline aquatic environment information. This should be done through a re-vitalized NOAA Oceanographic Research vessel program. Monies for vessels and vessel research programs not included in this program.	M+	Government

Physical/Chemical Fate - HIGH Overall Rating
- 1.75 M\$ Total
- 1.0 M\$ years 1 and 2, 750 k\$ years 3 through 5

Physical and chemical transformations occur relatively quickly and provide the short-term pathways for ecosystem and human exposures to original spill hydrocarbon components and reaction products. They are also extremely important in determining the oil condition/state which drives clean-up technology choices.

Activities:	Rating	Potential Program Execution
- Better mass transfer information is needed to enhance the ability to predict how much oil and what compounds are "evaporated", especially from emulsion "mousse" on water's surface. Known photochemistry should then be applied to identify the ultimate pathways and fates for what can be 30 to 50% of a spill.	H	Academia Non-Profit Res. Org. Industry
- Research is needed to provide quantitative models for partitioning among surface water-in-oil emulsions ("mousse"), the water column (oil droplet entrainment, dissolution, sorption onto particulate matter), and transfer to sediment sorbed on particles or directly as droplets.	H	Academia Non-Profit Res. Org. Industry

Physical/Chemical Fate (con't)

Activities:	Rating	Potential Program Execution
- Photochemical reactions at the oil/air interface, and chemical water column and benthic reactions may be significant processes in overall spill scenarios. Research should confirm the types of reactions and significance re potential impact.	H	Academia Non-Profit Res. Org. Industry

Biological Fate and Effects - MEDIUM+ Overall Rating
 - 5.25 M\$ Total
 - 3.0 M\$ years 1 and 2, 2.25 M\$ years 3 through 5

This area traditionally covers lower and aquatic life forms (algae, plankton, plants, fish, crustaceans, etc.) as opposed to birds, mammals, turtles, etc. Effects can be acute or result in more chronic, long term harm. Acute effects on eggs and larval stages may manifest themselves later as reduced fish populations. Biological fate and effects priorities were felt overall to rate an M+ since much is known. Additional information should be targeted for use in determining the lowest environmental impact scenarios for cleanup options when developing contingency plans.

Activities:	Rating	Potential Program Execution
- Identify the programs needed to establish baselines for comparison for various habitats (sand/rock beach vs. mangrove vs. coral reef, etc.). Since all organisms can't be done, this should identify key individuals for study and must reflect natural ecosystem variability, life cycle stages, seasons, etc.	H	Academia Non-Profit Res. Org. Government
- Compared to adult animals, much less is known as to hydrocarbon fate and effects on plants including algae and phytoplankton; as well as the effects of metabolic derivatives in general. Little also known on pelagic fish and on larval and juvenile fish stages. Fate and effects data gaps should be identified and research done to fill them, with particular emphasis on commercial species. These programs could vary widely with habitat.	H	Academia Non-Profit Res. Org. Government Industry
- Limited data is available on polar and tropic ecosystems and this should be collected, especially in areas near petroleum operations and transportation routes.	H	Academia Non-Profit Res. Org. Government Industry
- In addition to looking at individual species, research should be done to understand if there are significant long-term ecosystem shifts as a result of a spill, and if they do happen how can the impact be minimized.	H	Academia Non-Profit Res. Org. Government Industry

Biological Fate and Effects (con't)

Activities:	Rating	Potential Program Execution
- Tests with individual organisms may not exhibit effects due to interactions with other organisms, metabolic products/intermediates, etc. Standard controlled environmental systems (mesocosms) must be established for these tests. A few mesocosm systems exist today and the large cost associated with these systems (200-500 k\$/yr each) would not provide a significant increase in knowledge.	M	
- Understanding the ultimate site(s) of toxic action in an organism (ie., mechanism of toxicity) vs. gross response measure might enhance the ability to extrapolate information from a few key species in a habitat. However, much is felt known and the suggested research is extremely complex.	M	
- There is limited data on fish behavior alteration such as avoidance and the ability of anadromous fish to return for spawning, however what data is available indicates this is a low concern.	L	
- Little data is available on potential synergistic toxicity of petroleum components and organic/inorganic natural constituents or contaminants in local environments. However, information available suggests this is not a significant issue.	L	

5. MITIGATING IMPACT ON WILDLIFE

Whenever oil is spilled there is the potential to impact wildlife, especially birds and mammals such as sea otters and seals. Activities in this area are concentrated on deterring/repelling wildlife from a spill area prior to exposure and on capture, handling and cleaning of affected animals. Also, US law requires that a Natural Resource Damage Assessment (NRDA) be conducted, and potential NRDA activities are covered here.

Deterring/Repelling Wildlife - MEDIUM+ Overall Rating
 - 350 k\$ Total
 - 200 k\$ years 1 and 2, 150 k\$ years 3 through 5

Keeping wildlife out of spill areas would be the best method to prevent exposure. However, current methods such as air cannon horns for birds have met with limited success.

Activities:	Rating	Potential Program Execution
- Investigate natural avoidance/detection methods used by wildlife and develop natural and/or artificial techniques for deterring/repelling. Although this is an important area, feeling is the probability of success is low.	M+	Academia Government Non-Profit Res. Org.

Capture/Handling/Cleaning - MEDIUM+ Overall Rating
 - 1.3 M\$ Total
 - 1.0 M\$ years 1 and 2, 300 k\$ years 3 through 5

In some cases it appears that attempts to capture and clean wildlife result in more damage than exposure to the oil itself. Information and techniques need to be available such that minimum damage is done to exposed wildlife.

Activities:	Rating	Potential Program Execution
- Identify needs for ensuring the most effective capture, handling, and cleaning techniques. Develop and refine as needed and provide guidelines for use. Consider establishment of pre-assembled animal hospitals (trailers) that can be stored with other stockpiled oil spill response equipment.	H	Academia Government Industry
- Study acute effects from ingestion and dermal absorption, as well as the effects of crude contamination on body surface heat loss, ability to fly/feed/swim/breathe. Provide guidance for handling and cleaning activities.	M+	Academia Government
- Study longer term effects on habitat (nesting suitability, food availability), behavior, reproduction, survival, chronic organ damage, etc. Some overlap with fate and effects area. Existing information suggests this is not a major concern.	M	

Natural Resource Damage Assessment (NRDA) - HIGH Overall Priority
 - 200 k\$ Total
 - 200 K\$ years 1 and 2

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA commonly referred to as Superfund) provided for payment of Natural Resource Damages "...for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release." The limit of liability is 50 M\$ unless release resulted from willful negligence, misconduct or a violation of a federal safety, construction, or operating standard or regulation. Liability for individual occurrences is set through a Natural Resource Damage Assessment.

Activities:

- Ensure that the best information and methodology is in place to provide baseline data and execution of the assessment. Work with government to improve the process and provide the most accurate assessment.

Rating

H

Potential Program Execution

Government
 Industry
 Non-Profit Res. Org.

6. HEALTH AND SAFETY

There are several pathways by which communities may be exposed or impacted by a spill. These include air impacts from evaporated oil and hydrocarbons in drinking water intakes, as well as issues associated with power plant intakes and native cultural/historical effects. Due to their proximity to the spilled oil, there are industrial hygiene concerns associated with worker exposure during cleanup. Workplace safety (slips/falls) and the effects of temporary living conditions and long hours might also be a concern.

Human Health Exposure - HIGH Overall Rating
 - 550 k\$ Total
 - 400 k\$ years 1 and 2, 150 k\$ years 3 through 5

Minimizing effects on community health and welfare is a significant concern.

Activities:	Rating	Potential Program Execution
- Identify public welfare issues associated with drinking and power plant intakes, petroleum in food chain, and effects on native population (cultural/historical). Provide guideline framework that can be used in contingency plans and spill response.	H	Non-Profit Res. Org. Academia Industry
- Determine potential airborne community exposures. Assess potential magnitude and mechanisms, and need for detailed program.	M+	Non-Profit Res. Org. Academia Industry

Worker Safety - HIGH Overall Rating
 - 200 k\$ Total in years 1 and 2

Much workplace industrial hygiene and safety information is available which needs to be made readily available for spill situations.

Activities:	Rating	Potential Program Execution
- Evaluate existing worker exposure industrial hygiene info/guidelines for applicability to oil spill response and develop additional data as needed.	H	Industry Non-Profit Res. Org.
- Feel that existing information on workplace safety (preventing slips, falls, etc.) is adequate. May want to make more readily available for oil spill response.	M	
- Feel that living conditions are controllable and should not be an issue.	L	